COMMUNICATIONS ACT OF 1934

(AUTOMATIC RADIO CALL SELECTOR ON U. S. CARGO SHIPS)

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HEARING

BEFORE THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

EIGHTY-THIRD CONGRESS

SECOND SESSION

ON

H. R. 6004

A BILL TO AMEND PART II OF TITLE III OF THE COMMUNICATIONS ACT OF 1934, SO AS TO REQUIRE THE INSTALLATION OF AN AUTOMATIC RADIO CALL SELECTOR ON CARGO SHIPS OF THE UNITED STATES CARRYING LESS THAN TWO RADIO OPERATORS, AND FOR OTHER PURPOSES

MAY 3, 1954

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COMMUNICATIONS ACT OF 1934

(Automatic Radio Call Selector on United States Cargo Ships)

MONDAY, MAY 3, 1954

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The committee met at 10 a. m., Hon. Robert Hale (acting chairman) presiding.

Mr. HALE. The committee will come to order.

The hearing this morning is on H. R. 6004, a bill to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

(The bill referred to is as follows:)

[H. R. 6004, 83d Cong., 1st sess.]

A BILL To amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 353 of the Communications Act of 1934, as amended (47 U. S. C., sec. 353), is amended to read as follows:

"OPERATORS, WATCHES, AUTO-ALARM, AND AUTOMATIC RADIO CALL SELECTOR

"SEC. 353. (a) At least two qualified operators shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm and an automatic radio call selector;

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm; and

"(3) each passenger ship which is required by this part to be fitted with a radio installation.

"(b) At least one qualified operator, who shall have had at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States, shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm and an automatic radio call selector in accordance with this title; and

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm in accordance with this title.

"(c) Each ship of the United States required by this title to be fitted with a radio installation shall, while being navigated outside a harbor or port, keep a continuous watch by means of qualified operators: *Provided, however*, That in lieu thereof, on a cargo ship of the United States fitted with an auto-alarm and an automatic radio call selector in proper operating condition, and on a cargo ship (other than

a ship of the United States) fitted with an auto-alarm in proper operating condition, a watch of at least eight hours per day, in the aggregate, shall be maintained by means of a qualified operator.

"(d) The Commission shall, when it finds it necessary for safety purposes, have authority to prescribe the particular hours of watch on a ship of the United States required by this part to be fitted with a radio installation.

"(e) On any ship of the United States fitted with an auto-alarm or an automatic radio call selector, or with both an auto-alarm and an automatic radio call selector, such apparatus shall be in operation at all times while the ship is being navigated outside of a harbor or port when the operator is not on watch."

SEC. 2. Section 354 of the Communications Act of 1934, as amended (47 U. S. C., sec. 354), is amended by redesignating paragraphs (a) through (h) as paragraphs (1) through (8), by inserting "(a)" immediately after "SEC. 354.", and by adding at the end thereof the following new subsection:

"(b) The automatic radio call selector installed on any ship in accordance with this part shall be capable of receiving and identifying the call letters of such ship in Morse code. It shall provide a means for receiving signals on both distress frequencies (five hundred kilocycles and eight thousand three hundred and sixty-four kilocycles), selectively and not simultaneously, and shall sound an alarm if, but only if, the call letters of such ship are received. Such alarm shall be sounded in the operator's cabin, on the bridge, and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent of any other radio equipment on the ship."

SEC. 3. The amendments made by this Act shall take effect one year from the date of the enactment of this Act.

Mr. HALE. We will insert in the record at this point adverse reports on the bill from the Department of the Navy, the Federal Communications Commission, and the Department of Commerce.

(The reports referred to are as follows:)

DEPARTMENT OF THE NAVY,
OFFICE OF THE JUDGE ADVOCATE GENERAL,
Washington, D. C., October 12, 1953.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: Your request for comment on the bill (H. R. 6004) to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes, has been assigned to this Department by the Secretary of Defense for the preparation of a report thereon expressing the views of the Department of Defense. This report is submitted in lieu of a report on the similar bill H. R. 5023, request for which has been canceled.

Part II of title III of the Communications Act of 1934, as amended, establishes the requirements concerning radio installations, autoalarms, radio operators, and watches to be maintained on board certain ships for safety purposes. This act requires the installation of an autoalarm for safety purposes on a cargo ship carrying less than two radio operators. H. R. 6004 would require, in addition to the autoalarm, the installation of an automatic radio call selector on a cargo ship of the United States carrying less than two operators. Such a call selector would be capable of receiving and identifying the call letters of a cargo ship in Morse code, would receive signals on distress frequencies, and would sound alarm if, but only if, the call letters of the ship in which the selector was installed were received.

Section 352 (a) of the Communications Act of 1934, as amended, which is not affected by the provisions of H. R. 6004, would exempt from the above provisions a "ship of war" and a "ship of the United States belonging to and operated by the Government" with various exceptions not applicable to the Department of Defense.

It is noted, however, that the Department of Defense would be indirectly affected by the provisions of H. R. 6004 in the case of ships operated or chartered by the Government but not belonging to the Government, or in the case of ships belonging to the Government but operated by private individuals under contract. In the latter instance it appears that the Government would be required by the provisions of H. R. 6004 to install the call selector. In the former instance, although the private owner would be required to effect the installation, it could be

expected that the installation cost would be passed on to the Department of Defense through increased charges for the ships used by the Military Sea Transportation Service (MSTS). It is further noted that all MSTS ships are now, or soon will be, fitted with autoalarms which are actuated by a distress call from any ship regardless of call letters used.

In summary, the Department of Defense considers the installation of the automatic radio call selector as provided in H. R. 6004 to be unnecessary and undesirable for the following reasons:

(*a*) The call selector is not a device for safety purposes inasmuch as it operates only if the particular call letters of the ship in which it is installed are received. When a ship is in distress it is not interested in calling a particular ship by that ship's call letters, but makes a general call to any or all ships. The receipt of such a call is already adequately provided for by the installation of the autoalarm as described above.

(*b*) Not being a safety device it is unnecessary for the purpose for which its installation is proposed.

(*c*) In the case of a ship chartered by the MSTS, the private commercial owner predicates his charge upon what it costs to run his ship. One of these costs would be the cost of installation and maintenance of the call selector, or the cost of employing an additional radio operator as would be required by H. R. 6004 if the call selector is not installed. In either instance the result would be an increase in the charge to MSTS, ultimately borne by the Department of Defense, occasioned by the requirement for the installation of a device not adding to safety at sea. It is estimated that these charges would total a substantial amount.

In view of the foregoing, the Department of the Navy, on behalf of the Department of Defense, does not favor the enactment of H. R. 6004.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Department of the Navy has been advised by the Bureau of the Budget that there is no objection to the submission of this report on H. R. 6004 to the Congress.

Sincerely yours,

S. B. D. WOOD,
Acting Judge Advocate General
(For the Secretary of the Navy).

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D. C., July 22, 1953.

Hon. CHARLES A. WOLVERTON,
Chairman, House Committee on Interstate and Foreign Commerce,
Washington, D. C.

DEAR CONGRESSMAN WOLVERTON: This is in reply to the request of your committee for the Commission's comments concerning H. R. 6004, a bill to amend part II of title III of the Communications Act of 1934, as amended, so as to require installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators.

The Commission greatly appreciates the opportunity afforded us by your committee to submit our views with respect to this legislation. We have carefully reviewed the provisions of H. R. 6004, and we wish to submit the enclosed comments to your committee.

The Commission will be happy to submit any further information or comments concerning this legislation which your committee may desire. In view of the fact that the Commission has already submitted similar comments to your committee with respect to H. R. 5023, 83d Congress, we are transmitting the enclosed comments to you without obtaining the prior clearance from the Bureau of the Budget.

Sincerely yours,

ROSEL H. HYDE, *Chairman.*

COMMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION

H. R. 6004 would amend part II of title III of the Communications Act of 1934, as amended, as to require the installation of an automatic radio call selector on certain cargo ships of the United States carrying less than two radio operators, and for certain other purposes.

This bill is identical to H. R. 5023, 83d Congress, except that it omits a proposed amendment to section 352 (b) (2) of the Communications Act contained in H. R. 5023. That bill would have added a proviso to section 352 (b) (2) to provide that Commission exemption of cargo ships that do not voyage more than 150 nautical miles from the nearest land from the requirements of part II of title III of the act would not operate to permit such ships to carry less than two qualified radio operators unless such ships were fitted with automatic radio call selectors.

In commenting upon the provisions of H. R. 5023 which are incorporated in the present bill, the Commission stated that, viewing the relationship of such devices to the maritime radiotelegraph distress system, it did not appear that the advantages to the distress system which might result from the installation of automatic radio call selectors warranted making their installation mandatory on certain United States cargo ships carrying less than two radio operators. Copies of these comments are attached. The Commission believes that these same considerations are applicable to the present bill. The Commission, accordingly, adheres to the views which it has previously expressed with respect to H. R. 5023, with the exception of the comments addressed to the proposed amendment to section 352 (b) (2) of the act, which has been deleted from H. R. 6004.

Adopted, July 22, 1953.

THE SECRETARY OF COMMERCE,
Washington, December 22, 1953.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

DEAR MR. CHAIRMAN: This letter is in reply to your request of July 2, 1953, for the views of this Department with respect to H. R. 6004, a bill to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

The main purpose of the bill is to require the installation of an automatic radio call selector on certain cargo ships of the United States.

The bill would amend section 353 (a) of the Communications Act of 1934 (47 U. S. C. 353 (a)) so that each cargo ship of the United States which is now required by the act to be fitted with a radio installation, if it is fitted with an autoalarm and an automatic radio call selector, need only have one qualified operator. At present, such ship need have only the autoalarm if one qualified operator is carried.

Section 354 of the act would be amended by adding a provision that the automatic radio selector installed on any ship in accordance with the provisions of the bill shall be capable of receiving and identifying the call letters of such ship in Morse code, shall be able to receive signals on both distress frequencies (500 kilocycles and 8,364 kilocycles) selectively, shall sound an alarm only if the call letters of the ship are received, and shall be independent of any other radio equipment on the ship.

Section 3 of the bill provides that the provisions thereof shall take effect 1 year after the date of its enactment. It is questionable whether 1 year would be sufficient time within which to equip all cargo ships that would be required to install automatic radio call selectors by the bill.

There appears to be no reason why an automatic call selector should be made compulsory for United States cargo ships carrying only one radio operator. Title III, part II of the Communications Act of 1934, as amended, is concerned with radio regulations designed to enhance the safety of life and property at sea. It is not believed that the installation of automatic radio call selectors would make a substantial contribution toward the safety of United States cargo ships already equipped with autoalarms.

The automatic radio call selector appears to duplicate, in a less effective manner the function of an autoalarm tuned to the 500-kilocycle calling and distress frequency. The autoalarm will sound an alarm upon picking up the autoalarm distress signal, transmitted to all ships. An automatic radio call selector set for the call sign of the ship carrying it will respond only if that particular call is transmitted. It is important for a ship in distress to alert as many other vessels as possible. It appears that the autoalarm, now required by law, is better suited to accomplish this than the automatic radio call selector which, under the circumstances, seems to be superfluous equipment insofar as safety is concerned.

There is a place in the radiotelegraph scheme for the automatic radio call selector inasmuch as it may offer shipowners an opportunity to contact their cargo ships at times when the radio operators are off watch. At least one company has made extensive use of automatic radio call selectors throughout its large fleet of cargo ships, reportedly with excellent results. Reports from other vessels on which the device has been installed have been less enthusiastic. Review of these diverse reports leads us to believe that with proper maintenance and some forethought in its use the automatic radio call selector can be an asset in many instances. However, it is, in our opinion, primarily an operational device and any safety features attributed to it must be considered to be incidental in the light of the radio equipment already carried on cargo ships for safety purposes. Therefore, we suggest that its use is a matter for the shipowners to decide on the basis of their operational needs rather than one which requires legislative action.

For these reasons, the Department of Commerce recommends against enactment of H. R. 6004.

We have been advised by the Bureau of the Budget that it would interpose no objection to the submission of this letter. If we can be of further assistance in this matter, please call on us.

Sincerely yours,

SINCLAIR WEEKS,
Secretary of Commerce.

Mr. HALE. This bill is introduced by the gentleman from Massachusetts, Mr. McCormack, who is present. The committee will be delighted to hear from you, Mr. McCormack.

STATEMENT OF HON. JOHN W. McCORMACK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. MCCORMACK. Thank you very much.

Mr. Chairman and members of the committee, we are all interested in safety in the field of human activity. This committee is particularly interested in safety on the seas, particularly the high seas.

This bill relates to the safety of ships, which means, of course, the crew and cargo, the ability to save ships in distress, and I am hopeful the evidence that will be presented to this committee will be of a nature that will satisfy the judgment of the committee that the bill should be enacted into law, or legislation along the lines outlined in the bill should be enacted into law.

It is not my purpose to testify about the bill in detail. I am thoroughly acquainted with the purposes of the bill and the benefits that would flow from the enactment of such legislation, as will be shown by the witnesses.

I might say that I have testified on this bill heretofore, and I assume that the testimony taken before will be made a part of the record. I sent a memorandum to the chairman of the full committee which has been passed around for the benefit of members of the committee, and I hope that those views will be made a part of the record.

The first witness that I will ask to appear and present his testimony to the committee is Mr. Abraham W. Sereysky of New York City.

Mr. HALE. Is the memorandum entitled "Comments on Report to Committee"?

Mr. MCCORMACK. Yes.

Mr. HALE. Do you want that included in the record?

Mr. MCCORMACK. Yes, I would like that, and hope it will be done.

Mr. HALE. Without objection, it will be included.

(The memorandum referred to was read by Mr. Sereysky. Mr. McCormack's testimony on H. R. 5023 before the committee on June 12, 1953 (sponsor's day) is as follows:)

The CHAIRMAN. The next sponsor will be our distinguished colleague, John W. McCormack, who has introduced H. R. 5023, to amend the Communications Act. We are very pleased to have you present today, Mr. McCormack.

(H. R. 5023 is as follows:)

[H. R. 5023, 83d Cong., 1st sess.]

A BILL To amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 353 of the Communications Act of 1934, as amended (47 U. S. C., sec. 353), is amended to read as follows:

"OPERATORS, WATCHES, AUTO-ALARM, AND AUTOMATIC RADIO CALL SELECTOR

"SEC. 353. (a) At least two qualified operators shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm and an automatic radio call selector;

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm; and

"(3) each passenger ship which is required by this part to be fitted with a radio installation.

"(b) At least one qualified operator, who shall have had at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States, shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm and an automatic radio call selector in accordance with this title; and

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm in accordance with this title.

"(c) Each ship of the United States required by this title to be fitted with a radio installation shall, while being navigated outside a harbor or port, keep a continuous watch by means of qualified operators: *Provided, however,* That in lieu thereof, on a cargo ship of the United States fitted with an auto-alarm and an automatic radio call selector in proper operating condition, and on a cargo ship (other than a ship of the United States) fitted with an auto-alarm in proper operating condition, a watch of at least eight hours per day, in the aggregate, shall be maintained by means of a qualified operator.

"(d) The Commission shall, when it finds it necessary for safety purposes, have authority to prescribe the particular hours of watch on a ship of the United States required by this part to be fitted with a radio installation.

"(e) On any ship of the United States fitted with an auto-alarm or an automatic radio call selector, or with both an auto-alarm and an automatic radio call selector, such apparatus shall be inoperation at all times while the ship is being navigated outside of a harbor or port when the operator is not on watch."

SEC. 2. Clause (2) of section 352 (b) of the Communications Act of 1934, as amended (47 U. S. C., sec. 352 (b) (2)), is amended by inserting immediately before the semicolon at the end thereof a colon and the following: "*Provided,* That no exemption granted under this clause with respect to a cargo ship of the United States shall have the effect of permitting such ship to carry less than two qualified operators if it is not fitted with an automatic radio call selector".

SEC. 3. Section 354 of the Communications Act of 1934, as amended (47 U. S. C., sec. 354), is amended by redesignating paragraphs (a) through (h) as paragraphs (1) through (8), by inserting "(a)" immediately after "SEC. 354.", and by adding at the end thereof the following new subsection:

"(b) The automatic radio call selector installed on any ship in accordance with this part shall be capable of receiving and identifying the call letters of such ship in Morse code. It shall provide a means for receiving signals on both distress frequencies (five hundred kilocycles and eight thousand three hundred and sixty four kilocycles), selectively and not simultaneously, and shall sound an alarm if, but only if, the call letters of such ship are received. Such alarm shall be sounded

in the operator's cabin, on the bridge, and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent of any other radio equipment on the ship."

SEC. 4. The amendments made by this Act shall take effect one year from the date of the enactment of this Act.

STATEMENT OF HON. JOHN W. McCORMACK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. McCORMACK. Thank you, Mr. Chairman.

I have here a copy of my remarks, which will be distributed around. These remarks relate to H. R. 5023, which I introduced on May 5, 1953, and which relates to the amendment of the Communications Act of 1934, so as to require basically the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators.

American genius in this present electronic age has produced a certain device, hereinafter more fully described and referred to, which is commercially perfected, and the use of which is essential for the one radio-operator vessels in our merchant marine, if the safety standards and efficiency of ships flying the American flag are to be maintained at the highest level.

THE PRESENT STATE OF COMMUNICATION

It is undisputed that the basic means of communication with ships at sea is by means of international Morse code. It is accepted employment practice that a vessel with only one radio operator will have such radio operator on duty for 8 hours each day. Under the present law, which is not affected or changed by the proposed legislation under consideration, all cargo vessels need carry but one radio operator. Such vessel is on radio silence and cannot be reached when the radio operator is off duty for the remaining 16 hours of each day. That intended important messages including distress calls are delayed or unnoticed is self-evident.

Mr. O'HARA. Do you remember at the time of the *Titanic* disaster there was a ship very close to it. It had seen the *Titanic*, had seen the lights go out, but did not know anything was wrong. Do you remember that?

Mr. McCORMACK. I do. That is an illustration. There have been many others since that time.

Thus, communication with such a ship at sea, under such circumstances, is comparable to a stage in development of the ordinary telephone when it had no bell or other ringing device. The uncertainty of such communications may readily be visualized when one considers the unreliability of his telephone if it were not equipped with a ringing bell.

THE PROPOSED STATE OF COMMUNICATIONS

The automatic radio call selector provides a 24-hour radio watch even though only one radio operator is employed. The instrument is of the selector type which can be set to the characters of international Morse code such as those comprising a ship's call letters and will ring an alarm bell when those call letters are received, The alarm bell, or bells, may be placed on the vessel's bridge, in the radio opera-

tor's sleeping quarters, and so forth. The device will reject and not respond to any message except the one intended for its particular ship.

In time of war, if necessary, it is possible to reach all ships by predetermined code signals.

THE FUNCTIONING OF THE DEVICE

There is transmitted herewith as exhibit 1 an instruction book for this automatic radio call selector. All technical details relating to its description, theory of operation, installation, operation parts, and preventive and corrective maintenance are set forth. A general discussion of the equipment is set forth in the reprinted article from Electronics, August 1949 issue, published by McGraw-Hill Publishing Co. and transmitted herewith as exhibit 2. Federal Telecommunications Laboratory completed tests on this equipment which are contained in a laboratory report transmitted as exhibit 3.

GOVERNMENT AGENCIES AND AUTOMATIC RADIO CALL SELECTOR

This equipment has been tested and approved by Federal Communications Commission as meeting the requirements of section 8.135 of the rules for operation aboard ships in the maritime service (exhibit 4).

The United States Maritime Commission originally purchased nine devices for experimental installation. A report of such experiment may be found in an address by V. W. Mayer, electrical engineer, Division of Technical Development, Bureau of Engineering, United States Maritime Commission before the eastern regional meeting of the Institute of Navigation in Washington, D. C. (exhibit 5, p. 2). So favorable was the experience of the United States Maritime Commission that an additional 39 units were purchased by it and the inclusion of this device in all plans and specifications for new cargo construction of mariner type vessels has been directed by that Commission and a total of 108 units have been purchased by that Commission. Since the device is deemed mandatory for new construction, it would appear that the same benefits should be given to older vessels.

The United States Coast Guard has purchased and installed 66 units, after exhaustive tests lasting almost 1 year established the efficacy of the device.

Tests were also conducted by the Army Transport System and in a report to the Chief Signal Officer, Department of the Army, the following recommendation was made (exhibit 6, par. 3).

> 3. It is believed that with the addition of the Brelco-McGoffin ships call alarm equipment it would be possible to raise a vessel at any time regardless of its location. While tests have proven that there will be exceptions to this rule, these exceptions will be a minimum rather than a rule.

THE COMMERCIAL USERS

The shipowners: Among others, the Moore-McCormack Lines, Inc., States Marine Corp., Robins Lines have equipped their entire fleets with this device. A list of users and vessels is transmitted as exhibit 7.

Moore-McCormack Lines, Inc., crystallized the shipowners' reaction in a letter to an insurance representative contemplating a reduction of marine rates to users as follows (exhibit 8):

The equipment has worked very well, both in tests and actual use, and all reports from our fleet indicated enthusiastic approval. From a shipowner's point of view, we find it to be most attractive since it insures the immediate delivery of money-saving diversion messages and other important communications to our ships. Another point to consider is the fact that the alarm has definite safety potentialities involving distress and search and rescue operations.

The Radio Officers' Union: In the Radio Officers' News issued by the Radio Officers' Union of the Commercial Telegraphers Union, A. F. of L. (exhibit 9, pp. 5 and 6), the device is enthusiastically endorsed in the following language:

The original doubts of the shipowners and radio officers have been swept away. The selector works efficiently and is a money-saving device. The equipment has brought about considerable reductions in sailing time through diversion orders being received promptly. Actually savings have been run into hundreds and thousands of dollars and the equipment has shown that it will pay for itself from time and money saved, regardless of an occasional few dollars of overtime paid to the radio officer. The selector is a boon to the radio officer. It increases efficiency, simplifies work, and will help maintain an amicable relationship with the master. Even considering this equipment's various present-day uses, the wide and unqualified approval that it has received, has earmarked it for a much bigger job in the future. The airlines, coastal stations, point-to-point systems, and others will undoubtedly find it useful. Air-sea coordination and air-sea rescue are other probabilities. The complete usefulness and versatility of the selector have by no means been completely utilized and its application in the future will certainly not be restricted to the marine field.

It is to be noted that the mandatory use of this device will not cause the unemployment of any radio operator.

The radio operators: The enthusiastic reception by the radio operators can be ascertained from the following excerpts from unsolicited letters:

1. "The alarm has never once responded to a false alarm or failed in its operation at any time" (exhibit 10).

2. "* * * the alarm always worked * * *. I think this equipment a very good thing to have aboard all ships. It can be a great timesaver in the event of a diversion message sent during the night. Ordinarily the operator wouldn't receive it until the next morning and with this equipment he may get it soon after the message is originated. I was indeed very happy to have been on one of the first ships using the ship's call alarm" (exhibit 11).

3. "It is my considered opinion that the Brelco-McGoffin alarm system has proven itself many times over as a potential money and time saver insofar as steamship routing is concerned and also in expediting receipt of any and all messages" (exhibit 12).

4. "I was really amazed at the efficiency of the gadget. Not one false alarm all trip. I didn't have to touch it as far as maintenance is concerned" (exhibit 13).

5. "So, I hope you have got the idea that I think that ships call alarm is a damn useful piece of equipment" (exhibit 14).

The shipbuilder: In a paper presented on behalf of the Newport News Shipbuilding & Dry Dock Co. read at an annual meeting in 1947 of the Society of Naval Architects and Marine Engineers entitled "Electronics on Shipboard" (exhibit 15), the authors state the following with respect to this instrument:

If it is a practical success, it will extend the usefulness of the radio telegraph on vessels not required to maintain continuous watch by qualified operators, and eventually may result in modification of the regulations which now are prescribed.

Since 1947 the practical success has been demonstrated and as a matter of fact in October 1948 the Newport News Shipbuilding & Dry Dock Co. in a letter (exhibit 15–A) stated:

> While we cannot comment from the shipowner's or ship operator's standpoint, we are of the opinion that this equipment should be received by them with great enthusiasm, particularly the radio operators, since it relieves them of a rather tiring duty of maintaining a continuous watch. Also it should serve a very useful purpose in affording 24-hour communication service between the shipowner's office and the ship or ships having only 1 radio operator.

Thus indicating the practical success of the unit as determined in 1948.

The institutes: National Federation of American Shipping in a telecommunication note reviews the satisfactory use of the equipment by companies, its safety potential, and finds that the operator's overtime pay is not a factor. It reports that the owner's experience is that the savings—

> has sufficient moneysaving implications to pay for the device within a year's operation. It also has definite safety potentialities involving distress and search and rescue operations (exhibit 16).

The public and safety at sea: A disaster at sea is a real tragedy. A rescue operation wherein 36 seamen were saved is described in exhibits 17 and 18 transmitted herewith. Behind this rescue stood the automatic radio call selector. The log of the ship (exhibit 19) that performed this task shows the part played by the equipment. The letter from the shipowner describes the part played by the radio officer (exhibit 20):

> The radio officer of the *Mormacrey* handled approximately 120 communications, being on almost continuous watch. During his infrequent and short rest periods Mr. Cowden relied on his ship's call alarm and this brought him back to his key on three separate occasions.
>
> Although Mr. Cowden's rest periods were brief it was very reassuring to him and to the *Mormacrey's* master to know that the ship's call alarm was on the job and keeping watch while the vessel's radio station was unmanned.

Now let us compare the rescue operation aforedescribed with a sea tragedy that occurred when the ship's call alarm was not in use.

On March 10, 1950, the U. S. S. *Elder* exploded at sea and the lives of 40 members of the crew were subjected to the torture treatments of the elements. This experience is probably one of the strongest arguments that could be offered for the use of electronic equipment which, if used on the U. S. S. *Brewster*, an American ship, would have prevented such a tragedy. This equipment, though nominal in cost, would have prevented 7 days of suffering by 40 crew members and especially would have called attention to rescue ships and planes searching for the *Elder*, and in particular the attention of the *Brewster* which admittedly passed the distressed vessel within a very short distance. It is difficult to realize that men with the responsibility of the protection of ships at sea would hesitate to procure and use new types of available and successfully proven electronic equipment.

Lt. William A. Adams, commander of the U. S. S. *Elder*, after finally being rescued, said:

> I believe it was the hand of God written across the sky tonight that was in our favor.

Thus came to an end a near tragedy in loss of lives when 40 members of the crew of the *Elder* were saved on March 18, 1950, after being adrift for 7 days in the vast Pacific. Yet, the U. S. S. *Brewster*

had passed only 2 miles from the *Elder* without rendering any aid or assistance while the crew of the *Elder*—

signaled with flares, a square flag, international distress signal, smoke signals, and mirrors. We fired 20-mm. guns and Very pistols. The crew jumped up and down on deck waving anything they could lay their hands on.

The failure of the *Brewster* to respond—because they did not get the signal, of course—resulted in a search of more than 500,000 square miles of ocean by ships, planes and men, the cost of which measured in dollars and cents was prohibitive. The harrowing experiences of the crewmen of the *Elder* for the 7-day period cannot be evaluated in dollars and cents.

What assurance is there that this tragic experience will not reoccur? Why cannot it reoccur and end in real tragedy with the loss of hundreds of lives? It need not, it must not, and it will not—provided each ship is equipped with ship's call alarm, the installation of which would guarantee against any failure of ship-to-ship or ship-to-shore communications 24 hours a day.

Accordingly, it is respectfully submitted that the proposed legislation as contained in H. R. 5023 is in the public interest and I urge that this committee report favorably thereon.

That is the reason, gentlemen, I introduced the bill for consideration. I have followed this closely for several years. The bill was not introduced for any particular company. There is no monopoly on it. With this instrument on a vessel that has only 1 operator, working 8 hours, or 12 hours, there is always a contact from shore to ship or ship to shore. It has proved valuable, and it seems to me with the Maritime Commission, the Moore-McCormack Lines, and other lines using it, favorable consideration of legislation along this line would be in order.

I want to congratulate you, Mr. Chairman, and members of the committee, for this procedure you have adopted of hearing sponsors of legislation referred to your committee. I congratulated you on the floor of the House when I first learned of it. It is comparable to pretrial in the courts, and is a splendid thing. Thereby, if hearings are held later, you are familiar with the purpose of the proposed legislation, and it saves a lot of time.

The CHAIRMAN. We certainly appreciate those comments from such a distinguished leader of the House.

Any questions?

Mr. HESELTON. Is it a requirement that cargo vessels of the United States have this device?

Mr. MCCORMACK. They do not have to carry them now.

Mr. HESELTON. I am not entirely clear as to the method of reception. I understood from your statement the device was capable of receiving identifying call letters. Would it also be able to receive distress signals?

Mr. MCCORMACK. Yes. It can receive any kind of a call. A cargo vessel might be going from one port to another, and an opportunity might arise where, by going into a port in passing, they can get more business, and through this equipment the vessel could be directed to go into that port which it had not intended going into. Constant contact between shore and ship is available with this device.

Mr. HESELTON. Have you any information as to the cost of this device?

Mr. McCORMACK. I am informed it is from $1,650 to $1,750.

Mr. HESELTON. That is all.

Mr. HARRIS. I would like to say to our distinguished friend from Massachusetts that I personally think he has brought to the attention of the committee a very worthy piece of legislation. It certainly appears to me to have a great deal of merit, and I trust the time of the committee will permit its being set on the program for consideration at this session of Congress. I assume more than one company produces these instruments?

Mr. McCORMACK. I understand there are two companies that manufacture a system of this kind that would be serviceable.

Mr. HARRIS. To meet the requirements should this become law, I assume they would have to produce many thousands of them?

Mr. McCORMACK. I assume that is so; yes. I might say that according to the information given to me, the larger communications companies like RCA and Mackay have been looking into this situation for sometime, and have actually made purchases and have serviced the equipment worldwide.

The CHAIRMAN. A book of exhibits has been left here that will contain a great deal of the detailed information that the members may be interested in having.

Mr. HARRIS. I looked at it hurriedly a while ago, and it is very interesting. As I understand, this selector is from shore to ship and ship to shore, and not from ship to ship?

Mr. McCORMACK. It is from shore to ship, ship to shore, and from ship to ship.

Mr. HARRIS. Thank you very much.

The CHAIRMAN. We certainly appreciate your appearance this morning, and I agree with what has been stated by Mr. Harris, that this does seem to be a very worthwhile life-saving apparatus that should have serious consideration by this committee.

Mr. McCORMACK. Thank you very much, Mr. Chairman.

Mr. HALE. We will now hear from Mr. Sereysky.

STATEMENT OF ABRAHAM W. SEREYSKY, NEW YORK CITY

Mr. SEREYSKY. Thank you, gentlemen.

If it please the committee, I am an attorney admitted to practice at law in the State of New York. I am also an officer of the Brelcoe Electronics Corp.—the secretary of that corporation. It manufactures the automatic radio call selector.

I would like at first, if I may, refresh the recollection of this committee that some time last June at a preliminary hearing at which Mr. McCormack testified, the device that is involved here, the automatic radio call selector, its function, its operation, the present state of communication, the relationship and experience of the various governmental agencies who have used this equipment on board its ships, the experience of the commercial users of this equipment, the position of the various radio operators' unions and their reactions to its use, the experience of the radio operators themselves in the use of this device, and the attitude of the various marine institutes and shipbuilders were detailed to you, as well as were the actual experiences in various so-called sagas of the sea in which it was used.

Since it is my belief that that particular statement, together with exhibits referred to in that statement, were submitted to the committee, and unless it is the committee's desire, I do not believe there is any need to go into details with respect to this matter.

Now, after the bill had been introduced, in response to a request of this committee to the Department of Defense, the Federal Communications Commission and the Department of Commerce, various replies were received by the committee from those governmental agencies relative to their attitude, or position, with respect to this proposed bill H. R. 6004.

Now, I would like at this time to explore the various responses given by those particular Government agencies.

This proposed legislation in essence would require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operaters. The ultimate result is that each ship when so equipped with this device is assured of immediate and 24-hour-per-day receipt of messages of all types from other ships and stations. This proposed state of communications may be compared with the present state when receipt of messages by a cargo ship is limited to a period of approximately 8 hours per day while a radio operator is actually on duty. It must be remembered, too, that upward of 95 percent of the ships flying the United States flag are cargo ships in this category with only one radio operator.

Each of the governmental agencies in its comment on the proposed legislation recommends against enactment on the principal ground that the installation of the automatic radio call selector would not enhance the safety of life and property at sea, since cargo ships are already equipped with the auto alarm.

Now, it is submitted that opposition to the proposed legislation on such ground is without merit for the reasons hereinafter set forth.

On board each ship there is an auto alarm. That auto alarm has nothing to do with the automatic radio call selector. It responds to what is known as the international distress signal. This auto alarm is mandatory, and as I said, it is actuated by the auto alarm signal which precedes the distress signal. This auto alarm was perfected in the late twenties and was adopted and made mandatory in the early thirties.

Now, in spite of the genius of man and the tremendous advances in the past few decades, and the arrival of the electronic age, the same device invented some 30 years ago remains unchanged as the watchdog of life and property at sea. I ask this committee whether it is conceivable there has been no improvement on such device, and that no improved similar device has made its appearance in the last 30 years.

Unfortunately, the autoalarm is not a foolproof device, operating at 100 percent efficiency. Yet the governmental agencies must assume such perfect operating efficiency to substantiate their positions. The truth is that the autoalarm may not be rung off by the autoalarm signal preceding the distress signal. The sounding of this autoalarm is a one-shot chance. The equipment proposed by the legislation offers many chances that some radio officer may be summoned by a distress signal or call. In addition, the proposed equipment could be set to respond to not only the international autoalarm signal, but the S O S signal itself; T T T, the international safety signal; x x x, the urgent signal, as well as to the ship's call

letter, and any other predetermined code which is desired in emergencies.

It appears to me to be self-evident that such a state of communications with the automatic call selector that provides a capability to receive messages 24 hours a day, to receive S O S signals, the international distress signal, the urgent signal, or any predetermined code would be a step to increase the safety potential at sea.

A sister ship frequently requires aid in an emergency under such conditions where an S O S by the disabled ship is not warranted—a message from another ship or station intended as a warning of a hurricane or other adverse weather condition in its vicinity or an unusual sea condition in its path; a message for a ship carrying defense material intending to divert such ship—such messages today have a possibility of receipt only if a radio officer is on duty, during his hours at his radio station. Thus, the overwhelming odds are that such message will not be received. The autoalarm plays no part in an attempt to deliver such messages. With the automatic radio call selector there is a complete assurance of delivery of the message.

In the actual disaster itself, the proposed equipment permits the formation of a radio network of ships and removes the element of a breakdown from human fatigue by increasing the efficiency of a radio operator remaining constantly on duty for many continuous hours or days, a situation that is not unusual. In such event this equipment stands watch for the radio operator, insuring that traffic will not be missed and that he will be alerted if any message is intended for him.

Thus, I submit, the device will assert its invaluable aid in predistress situations standing as a preventive of possible disaster, in situations of difficulty not of a full distress nature where there is no way of alerting sister ships and finally in distress situations in search and rescue operations when precision messages, and not general messages are transmitted and when a radio network of rescue ships is the essential to successful operation.

It, therefore, appears that the use of the proposed required equipment would considerably increase the efficiency of the present existing safety program.

Now, the Department of the Navy in its comments has raised the question of cost—the dollars and cents involved. It has pointed out that directly or indirectly the Department of Defense may be called upon to pay for the cost resulting from the installation of this proposed equipment.

The cost of this equipment is so insignificant that it is a recommendation for the legislation. Each unit of the automatic radio call selector would sell at a maximum price of $1,650, and unquestionably less when manufactured in quantity. The ordinary life of ship equipment is taken by the industry to be 5 years and depreciated on such basis; the actual life and use is far in excess of the period of years. On such a maximum cost basis, the actual cost of this equipment amounts to 90 cents per day—a cost of pennies per day. Compare this cost for this equipment with the annual charter cost of a cargo ship which amounts to approximately $550,000 per year. The additional burden of 90 cents per day added to the overall cost of $550,000 per year, if anything, recommends the proposed legislation because of the additional safety at a cost of only pennies. In addition, a

diversion and saving of only 1 day's charter will in and of itself pay for the equipment and its installation.

The Federal Communications Commission comment states that the proposed legislation would require installation of automatic radio call selectors only on American cargo ships which represent a small percentage of world shipping and that American ships would thus have superimposed equipment not required by foreign vessels. Further, that congressional action in the past requiring installation of equipment has been based upon a first adopted international radio telegraph safety system.

That matter is asserted as further grounds of opposition to the proposed legislation, and, therefore, I would like to analyse those objections as well.

The Federal Communications Commission position that because vessels sailing under foreign flags are not required to have this equipment, then United States flag cargo ships should not be so required is not indicative of the forward-looking progressive approach and view that is the standard of that Commission. The United States has traditionally led the way in the adoption and use of new technological improvements and it is a result of the adoption by the United States of higher standards that imporvement in worldwide conditions has been attained. To adopt a view that standards of countries with lower technical and economic levels shall determine the standards of the United States ships is on its very face a fallacious doctrine. The inadequacy of such approach is accented when it is realized that international safety standards that have been adopted are based upon a minimum requirement of equipment. Thus, the Federal Communications Commission in its comments indicates that the acceptance of these minimum requirements are sufficient for our vessels even though new technological improvements are available.

The objection that only United States ships would be required to install this equipment and that such ships form a small percentage of the worldwide fleets, and that, therefore, the use of this equipment by United States ships alone would be inconsequential, neglects to take into consideration the important aspect that United States ships with this equipment could respond to the signals initiated by foreign ships and the absence of this equipment from foreign ships does not prevent the United States ships so equipped from responding and serving in a radio network of ships. This may mean the difference between the life and death of seamen and passengers and the saving or loss of property.

Both the Federal Communications Commission and the Department of Commerce indicate there is a place in the radio-telegraph scheme for this equipment. The Federal Communications Commission refers to it as a "traffic calling" device and the Department of Commerce as an "operational" device. Both, however, fail to note that even in such capacity the device may be of immeasurable public benefit. Thus in time of war or national emergency, under conditions hereinbefore referred to, a cargo vessel with war material and supplies may be reached at any hour and immediately diverted from certain peril or for military logistic considerations. Such communication with such vessel would not be possible otherwise if the radio officer were off duty, and he is off duty, as stated, for 16 hours of each day. So, too, by setting the call selector to a predetermined code, all ships

operating under such code could be signaled simultaneously. The ability to accomplish such a result in time of war or national emergency cannot be measured on a dollars and cents basis.

The Secretary of Commerce refers to the excellent results reported by the owner of a large fleet of cargo vessels equipped with this device. He does not mention the extensive tests conducted by his Maritime Administration, the purchase by the Maritime Administration of 108 units of this equipment, and the inclusion of this device in the plans and specifications for new mariner-type vessel construction.

It must also be noted that the Radio Technical Commission for Marine Services, an organization consisting of representatives of various branches of the Government, the shipping industry, and the communication industry, has heretofore appointed a special committee to study and report on Selective Signaling and Ringing Devices. At a meeting of the executive committee of this Commission held on June 23, 1953, a report by this special committee was submitted. At this meeting, too, the automatic radio call selector was a subject of discussion and it was reported that the automatic calling system developed for telegraphing ships, whereby a ship's call letters actuate the device, was available on the market. However, it was noted that the equipment was sold—

in relatively small quantities and unless the equipment was made compulsory not many would put it on.

Thus it would appear that the existence of this equipment is known to a body primarily interested in the ships' communication field and that it would further appear from the foregoing report that legislation would be required to insure its use.

This is a matter of recalling to this committee the operation of this device, and I would like by way of analogy to point out this practical aspect to you: Each and every one of us, of course, is familiar with his telephone, and we know that the telephone has a bell. Imagine, if you will, this telephone without a bell. Now, you could sit at your desk or at your home with that telephone to your ear, and as long as you sat there with the telephone to your ear you would receive messages, but as soon as you were to place that telephone down, back on the stand or on the holder, and somebody were to call you and you were not present, you would never receive the message. That is the present state of communications in those ships that have a radio officer on duty 8 hours a day. For 8 hours a day he sits there with the telegraph key in front of him and he can receive messages. For 16 hours a day, when he walks away from that radio station, there are no messages that will be received.

This particular device or equipment acts as the bell in your telephone. The bell can be placed on the navigation bridge, in the radio shack or station, in the radio officer's quarters, and as soon as the message that is intended for the ship is received—and, as we now propose, the urgent signal, the international safety signal, and the others—he would be immediately alerted and could immediately obtain that particular message.

We believe, and we respectfully submit in the light of the fact that so many years have elapsed and during the course of those many years such tremendous advances have been made in electronic equipment, that it would be to the best interests of the public, and it would

definitely enhance the safety position at sea, to require the installation of this particular equipment.

Now, it is our opinion that the maritime industry generally in placing new equipment aboard its ships, and as was reported by the Commission, consisting of Government representatives and people in the communications industry and in the maritime industry as well, it was acknowledged that unless the use of this equipment were made mandatory the shipowners themselves would not place the equipment on board the ships.

The National Federation of American Shipping in a telecommunication note which is an exhibit that was previously handed to the committee, stated that this device is apparently attractive to both the individual radio operator and the shipowner. It is attractive to the radio operator because it tends to protect him from missing calls addressed to the ship, and it is attractive to the shipowner. Then it also says that it contains the element of overtime resulting from answering calls which occur during his off-duty hours. It is attractive to the shipowners because of the immediate delivery of money-saving diversion messages and other important communications to the ship can now be accomplished by its use. It has definite safety potentialities involving distress and search and rescue operations.

It is my recollection that the National Federation of American Shipping stated the overtime pay was not an element, or a factor in this particular picture.

It has been endorsed by the radio operators. It has been praised by publications of various radio operators' unions, and it is my belief that a representative of the radio officers' union is here to testify before this committee with respect to this bill.

At the present time in its youth the entire Moore-McCormick fleet has been equipped with this device. The entire States Marine Corp. fleet has been equipped with this device. Also, the Robbins Line. The Standard Oil Co. of New Jersey has placed it on 15 of its tankers.

As I stated, the United States Coast Guard has heretofore purchased and used 66 of these units. The United States Maritime Administration has purchased and used 108 of these units. The Radio Technical Marine Services Commission has directed that the matter be placed upon their calendar every 3 months for discussion.

Therefore, we submit it would be in the best interest of American shipping, and for the safety of personnel at sea, and for the safety of life and property, that this particular equipment be made mandatory on cargo ships flying the United States flag with one radio operator.

Mr. HALE. Are there any questions of Mr. Sereysky?

I may explain that the committee is sitting in a borrowed committee room today because our committee room is out of commission on account of the noise in the street. Please do not be misled by the names in front of the members, because they do not apply to the members here present.

Mr. SEREYSKY. Yes.

Mr. PRIEST. Mr. Sereysky, I assume where there are cargo ships with two radio operators you feel that there is adequate protection. The bill says "less than two."

Mr. SEREYSKY. That is because the present Federal Communications Act either provides for 24-hour-a-day radio operators on board or else, if they do not have 24-hour-a-day radio operators in these

various cargo ships, then there may be just 1 radio operator together with the auto alarm. It therefore appears to the best of my recollection and knowledge that either there will be 1 radio operator, or 3 radio operators full time.

Mr. PRIEST. There would be required 3, I presume, without question of overtime, to have a 24-hour, round-the-clock radio operator on duty.

Mr. SEREYSKY. That is right, sir.

Now, passenger ships, of course, have 24-hour-a-day radio operators; that is, 3 shifts of 8 hours each. This does not apply to passenger ships which already have the manpower to operate the station so any message intended for such a ship is readily available, or capable of receipt.

Mr. PRIEST. It is mandatory those passenger ships be so manned by radio operators; that is true, is it not?

Mr. SEREYSKY. Yes.

Mr. PRIEST. I think that you have answered the question that I had in mind. In your analogy of the telephone, I wanted you to get down to a specific analogy of that sort in order that my mind might be cleared a little.

Suppose that there is a cargo ship with only one radio operator who has already been at his key and with his earphones on for 8 hours and is off duty, and suppose a ship nearby sends a distress signal, is there any way presently whereby that signal might be received by that ship?

Mr. SEREYSKY. For an actual distress signal, where that ship is sending out an S O S message—a ship that is practically sinking—there is an auto alarm that should be actuated to alert all ships from that particular fact.

Now, that auto alarm, as I pointed out, is a one-shot chance. It has been known to fail in those area where there are high static levels, where there is interference. That is just a one-shot chance.

Mr. PRIEST. Will you go further and show the additional safeguard that would obtain provided the ship was equipped with this particular installation? What are the other shots that would be possible, let us say?

Mr. SEREYSKY. Well, I think that we must view it as well from a preventive perspective as well as from the situation where the actual disaster has occurred.

When a radioman is off duty at the present time there is no method at all—so-called preventive safety—of alerting the particular ship that perhaps there is some hazard in its path, whether it be a weather condition, or hurricane. There is no method of diverting that ship, or any way of reaching it when that radio operator is off duty. With this equipment such a ship could be alerted.

Mr. PRIEST. And the other one-shot system which you referred to would apply only in the condition of disaster?

Mr. SEREYSKY. Only after the disaster had already occurred and the situation arose where, under the established practice, an S O S message could be sent out.

Mr. PRIEST. Mr. Chairman, that is all for the time being.

Thank you, sir.

Mr. YOUNGER. Mr. Sereysky, in order to clear the record, I was not sure of your explanation of the cost of the installation.

Mr. SEREYSKY. This particular piece of equipment is presently manufactured in small quantities and its maximum cost is $1,650.

Mr. YOUNGER. For the installation on a ship?

Mr. SEREYSKY. $1,650.

If I may, I think that there is probably a small charge of approximately $100, or something of that nature, for the installation of the equipment. The equipment itself sells for approximately $1,650, and there is a nominal charge of approximately $50, or whatever it may be, for the time involved, for the actual installation. The equipment, by the way, is serviced world wide by the Radio Marine Corp., marine subsidiary of RCA. That is the total cost of the equipment.

Now, in the marine industry, as I understand it, the equipment is depreciated on a 5-year basis, which would mean that the annual cost is $330 per year if the equipment costs $1,650. That divided into a daily cost means less than $1, or roughly 90 cents a day. The life of the equipment is far in excess of this 5-year period, which is used for accounting purposes only for depreciation.

From my knowledge and from my information, the approximate chartering cost of a vessel is $1,500 per day, or roughly $550,000 a year, so an additional cost of 90 cents per day for something that would enhance, or give a greater safety potential, is measured in pennies and, in my opinion, is not a cost factor that should be objectionable to the requirement this device be installed on board ships.

Mr. YOUNGER. Thank you very much. I think when you read the record you will find that explanation is quite different from the one that you put in the record before. I suggest that you correct the record to this explanation because before you were using costs per year and costs per day, and so forth, and you had them all intermingled. That is the point that I was trying to clear up.

Mr. ROGERS. Mr. Sereysky, who manufactures this equipment?

Mr. SEREYSKY. At the present time my client, the Brelcoe Electronic Corp. manufactures the equipment and has a patent. I may state for the record for the purposes here that we are perfectly willing to give a general license to any manufacturer for the manufacture of this equipment.

Mr. ROGERS. You do hold the patent rights?

Mr. SEREYSKY. Yes. There is a patent. I thank you for asking the question, sir, because I did want to state that for the record.

Mr. ROGERS. And you appear here in behalf of the management?

Mr. SEREYSKY. I appear here in behalf of the management, and I so state to the committee that any other manufacturer who desires to manufacture this equipment will be licensed to manufacture it under the general business standards. We have no desire to have a monopoly in this particular field.

Mr. PELLY. I would like to ask the witness how many cargo-carrying ships we have in our merchant marine today which do not have this device.

Mr. SEREYSKY. Understand there are approximately 1,300 to 1,500 cargo-carrying ships in the United States, and some of the ships are being laid up from time to time.

Mr. PELLY. Do those ships that do not have the device now carry two radio operators?

Mr. SEREYSKY. No, sir. The cargo ships would only carry one radio operator, who is on duty 8 hours per day.

Mr. PELLY. In other words, this device would not eliminate any radio operator?

Mr. SEREYSKY. It would not in any way eliminate any radio operator because it is essential that a radio operator be present so that he may be alerted to the receipt of a message that might be received by that ship when he was actually off duty.

Mr. PELLY. Is there any other device, Mr. Sereysky, comparable to this particular one that you mentioned which would give the same results of alerting ships?

Mr. SEREYSKY. The only other device is the one, as I said, that was perfected some 25 or 30 years ago—the autoalarm.

Mr. PELLY. What I meant was is there any intercommunicating system similar to a walkie-talkie that is used from ship to shore that could alert a ship?

Mr. SEREYSKY. There is a ship-to-shore telephone, but to my knowledge, it is not found actually on board these cargo vessels that ply the seas.

Mr. PELLY. In other words, there is no system now in use which would preclude the necessity of having an alerting system such as this?

Mr. SEREYSKY. No, sir; because you must remember that the basic means of communication of ships at sea is the international Morse code, and it is not the telephone. It is the international Morse code used by the sending ship, from shore station to ship, or ship to ship. That, of course, requires the skilled radio operator in his radio station. As far as the present state of communication is concerned, as long as he is actually on duty in his radio stations he will receive the messages; he will monitor his particular frequency and receive his messages. When he walks away from that radio shack, there are no messages that can be received except, as I said, through the autoalarm.

Mr. PELLY. Do the foreign cargo ships have any alerting device such as this?

Mr. SEREYSKY. The autoalarm is used internationally.

Mr. PELLY. It is used internationally?

Mr. SEREYSKY. Yes.

Mr. PELLY. And there is nothing comparable to what you mentioned?

Mr. SEREYSKY. No, sir.

Mr. PELLY. There has been a tendency, as I understand it, to transfer our ships to foreign flags. I do not suppose that a modest investment of $1,600 or $1,700 would increase that tendency any?

Mr. SEREYSKY. Frankly, I do not feel that this legislation would in any way drive any of the United States flag cargo ships to flags of other nations.

Mr. PELLY. The transfer of those ships is causing us a great deal of concern; those of us who come from districts that have a great interest in foreign commerce by ships. We are tremendously distrubed by this increase in the cost of operation of our ships as against foreign flag ships.

Mr. SEREYSKY. Well, sir, if I might just say to you the Moore-McCormack Line, which has this equipment installed, has actually stated that the equipment has not only paid for itself, but in certain salvage operations it has made money for them. If you may assume that a ship is sailing from New York to some place in South America

and the radio operator is off duty and you want to divert that ship and tell them to pull into Baltimore to pick up a cargo that is destined for the same port in South America to which the ship is going, and the radio operator is off at the time—and this would be strictly for diversion purposes—they might have to wait 16 hours while that ship has been steaming before calling it to tell it to go back to Baltimore to pick up the cargo. That is from an operational or traffic standpoint.

Mr. PELLY. Is this legislation restrictive at all to the extent that it would have certain specifications on an alarm system?

Mr. SEREYSKY. No, sir.

Mr. PELLY. The patents of your company would not unduly benefit your company? Could another manufacturer come along with a similar device?

Mr. SEREYSKY. It could be manufactured under other patents and it would in no way affect the ability of other manufacturers to produce equipment that I presume would meet the Federal Communications requirements.

Mr. O'HARA. Mr. Sereysky, I notice that all the departments of Government that are affected have given an adverse report on this proposed legislation. I believe that was true in the 83d Congress also.

Mr. SEREYSKY. There preceded this bill a bill, H. R. 5023, and insofar as the drafting of the previous bill affected one of the sections, 352 (b) of the Communications Act, the bill was merely redrafted and reintroduced again under its present number, and this present bill is the counterpart of the original H. R. 5023 on which no hearings of any sort were held.

Mr. O'HARA. The Navy Department in its adverse report states:

> In summary, the Department of Defense considers the installation of the automatic radio call selector as provided in H. R. 6004 to be unnecessary and undesirable for the following reasons:
>
> (*a*) The call selector is not a device for safety purposes inasmuch as it operates only if the particular call letters of the ship in which it is installed are received.

Now, what have you to say about that?

Mr. SEREYSKY. That was to be my suggestion to the members, that after the drafting of this bill, and further consideration, that we also wanted to include—and that would negate the argument—the international auto signal, the international safety signal, that is, TTT and XXX, the urgent signal, as well as the call letters of the ship, and any predetermined code.

Mr. O'HARA. Could you have this device set on all of those signals?

Mr. SEREYSKY. Well, it would be very easily adaptable in parallel circuits so that any messages going to anyone of these relays would set up any one of these signals.

Mr. O'HARA. Would that be an additional cost to the equipment or installation?

Mr. SEREYSKY. No. The additional cost of the equipment would be camparatively slight and certainly would not affect the cost of the installation.

Mr. O'HARA. The report goes on to say in subparagraph (*a*):

> When a ship is in distress it is not interested in calling a particular ship by the ship's call letters, but makes a general call to any and all ships. The receipt of such a call is already adequately provided for by the installation of the autoalarm as described above.

That is the standard equipment on all ships, is it not?

Mr. SEREYSKY. That is right.

Mr. O'HARA. The autoalarm?

Mr. SEREYSKY. Yes.

Mr. O'HARA. What do you have to say with reference to that statement?

Mr. SEREYSKY. As I understand the operations of the autoalarm, there are a series of 12 dashes, spaced at a certain time, any 4 of which should activate the autoalarm.

Mr. O'HARA. A further objection:

(b) Not being a safety device, it is unnecessary for the purpose for which its installation is proposed.

(c) In the case of a ship chartered by the MSTS, the private commercial owner predicates his charge upon what it costs to run his ship. One of these costs would be the cost of installation and maintenance of the call selector, or the cost of employing an additional operator as would be required by H. R. 6004 if the call selector is not installed.

This lesislation provides that they either must install this equipment, as I understand it, or provide for two radio operators.

Mr. SEREYSKY. Yes. As a matter of fact, at the present time, the legislation provides that if the autoalarm is not installed, additional operators must be kept on board the ship, and this merely carries out the pattern of the autoalarm with this radio call selector.

Mr. O'HARA. They go on to say:

In either instance the result would be an increase in the charge to MSTS, ultimately borne by the Department of Defnese, occasioned by the requirement for the installation of a device not adding to safety at sea. It is estimated that these charges would total a substantial amount.

Mr. SEREYSKY. I have previously indicated what it would add to the charter cost. I have also indicated that the instrument or device would be activated only to the call letters not presently applicable, since it is our purpose to include not only the call letters of the ship, but the international safety signal, the TTT, the XXX, the urgent signal, as well as the ship's call letters and any other predetermined signal, so a group of ships sailing under a particular code, in the event of a national emergency, could be all alerted at the same time by merely sending out that code message.

Mr. O'HARA. That is all.

Mr. HESELTON. In your answer you gave an illustration of an economy operation which might be developed?

Mr. SEREYSKY. Yes, sir.

Mr. HESELTON. I can understand that, but it seems to me perhaps that the committee would be justified in recommending the legislation not on the basis of the economy, because that is up to the individual operator, but on the basis of safety.

Mr. SEREYSKY. That is right, sir.

Mr. HESELTON. As I understand it at present, what you described was a one-shot chance; that is that the S O S signal may be received. I wish you would describe a little more what is the purpose of the TTT, the international signal.

Mr. SEREYSKY. I am not wholly familiar with that myself. My understanding is that on the basis of the S O S signal, it is sent when an actual disaster has occurred. There are these situations which are preventive in native when these other signals are sent, and I believe somebody else better could explain to you, sir, somebody who is present here, can better explain it to you.

Mr. HESELTON. There is someone here on that?

Mr. SEREYSKY. There is.

Mr. HESELTON. All right.

Mr. HARRIS. One or two questions, Mr. Chairman. Would it be asking too much for you to very briefly describe the operation of these two types of signals, that is the one presently required and referred to as the autoalarm, and the one which you propose here?

Mr. SEREYSKY. Sir, may I make this request to you? There is somebody here. I am personally not familiar with the actual mechanics. I know that there is somebody who will appear before this committee who can actually as a radio operator, or a former radio operator, state to you precisely what occurs.

Mr. HARRIS. Very well. I am not sure that I will understand it after it is explained but it would be well to have it in the record if it could be briefly explained.

Mr. SEREYSKY. Yes, sir.

Mr. HARRIS. Is there any controversy at all between the manufacturers of your type of radio selector and the present requirement which, as you have explained, was made in about 1930?

Mr. SEREYSKY. No, sir.

Mr. HARRIS. Are they still manufacturing the old type which you referred to?

Mr. SEREYSKY. The auto-alarm system still is being manufactured and still being——

Mr. HARRIS. In great numbers?

Mr. SEREYSKY. It is required for every single ship, sir, for installation on every ship.

Mr. HARRIS. What is the life of the autoalarm?

Mr. SEREYSKY. Most of the marine equipment used on board ship is sturdy. That is one of the requisites, that it must be sturdy.

Mr. HARRIS. Consequently when it is installed you have no trouble in the future so far as replacement?

Mr. SEREYSKY. Replacement is absolutely negligible.

Mr. HARRIS. Replacement for this new type of signal would be about 5 years?

Mr. SEREYSKY. No, sir. For accounting purposes it is depreciated in accordance, as I understand it, with the marine industry practice over a period of 5 years. Actually it's use has been known to be in excess of 10 or 15 years. I cannot say precisely how long actual life of this unit would be because it is a comparatively new one. But I will say to you gentlemen that there were some installated in 1947 that are still in operation and have not even had cause to be repaired.

Mr. HARRIS. How extensive are these new alarm signals, that is the new selector systems? How extensively are they used?

Mr. SEREYSKY. There has been submitted to this committee as an exhibit at a previous hearing a list of all the vessels and the various companies which have purchased those.

Mr. HARRIS. Approximately how many? That is the point at this time.

Mr. SEREYSKY. May I say, sir, that various South American countries have purchased them. Egypt has purchased them. Argentina has purchased them. Belgium has purchased them.

Locally, and when I say locally I mean the United States-flag ships, those are roughly about 200.

Mr. HARRIS. How many United States-flag ships use it? You say roughly 13 or 14 hundred?

Mr. SEREYSKY. That is my information as to the approximate number.

Mr. HARRIS. That includes all private and Government-owned ships?

Mr. SEREYSKY. That is right, sir. Those are cargo ships.

Mr. HARRIS. You say you do not know how many cargo ships merchant marine have?

Mr. SEREYSKY. There is somebody present who can tell you that more precisely than I can.

Mr. HARRIS. Would the Department of Defense be required to purchase any of these signals?

Mr. SEREYSKY. No, sir. All Government-owned ships, Navy, et cetera, are exempt.

Mr. HARRIS. How would the Department of Defense be required to pay for such installations, then?

Mr. SEREYSKY. The Department has said in its comment that indirectly in the charter cost of a vessel, if a vessel had to have this device or equipment put on board, that they ultimately might have have to bear the burden of the cost of it.

As I pointed out, ultimate cost is a few pennies a day.

Mr. HARRIS. In other words, it is raising of rates to pay for the installation?

Mr. SEREYSKY. That is right, sir.

Mr. HARRIS. A ship which has two radio operators would not be required to install it?

Mr. SEREYSKY. That is right.

Mr. HARRIS. Would not be required to install this operation?

Mr. SEREYSKY. That is right.

Mr. HARRIS. That is all, Mr. Chairman.

Thank you very much.

Mr. HALE. Any other questions?

Mr. WILLIAMS. As I understand it, this device would receive distress calls from any ship which happened to be within radio distance. Is that right?

Mr. SEREYSKY. Yes.

Mr. WILLIAMS. Further, as I understand it, the person putting out the distress signal would not have to call the call letters of the ship receiving it under this device. Is that right?

Mr. SEREYSKY. As it is contemplated, under the present law as it is written, it states only that the call letters shall be received.

It is our purpose and our suggestion, and I contemplate requesting the committee to add on these other signals that the unit shall be capable of receiving as well, in addition to the call letters.

Mr. WILLIAMS. Do aircraft operate on the same frequency, that is, the same distress signals, that ships do?

Mr. SEREYSKY. I cannot answer that. I know the basic distress signal for ship communication is 500 kilocycles with an alternate of 8,364. I do not know whether the aircraft operate on that same signal.

Mr. WILLIAMS. Under this system the ship also would receive distress calls from aircraft, would it not? Would it be geared to that extent?

Mr. SEREYSKY. Yes. It would respond, I can state to you, sir, to the international code signal, whatever the distress signals are. The equipment and device would pick up that signal and be activated, be alert, and ring the bell or whatever device is used for alerting the radio officer.

Mr. WILLIAMS. It would be added protection for aircraft as well as ships in a sense. Is that right?

Mr. SEREYSKY. Yes.

Mr. HALE. Mr. Mack?

Mr. MACK. I would have been much more comfortable 2 years ago if the ships at sea had had this equipment installed at that time.

Mr. SEREYSKY. I can state to you, sir, that it was in constant use in the sea rescue off the Pacific coast, and there are testimonials, that is there are statements in the log, as a matter of fact, of one of the ships involved in this rescue operation which has been presented to the committee, the actual log of that rescue.

Mr. MACK. At the present time are there many ships using this equipment?

Mr. SEREYSKY. As I stated, it is my best belief at the moment that there are approximately 200 American-flag ships equipped with this device.

Mr. MACK. That is all I have.

Mr. HARRIS. May I ask a couple more questions, Mr. Chairman?

Mr. HALE. Mr. Harris.

Mr. HARRIS. Is the autoalarm now required by legislation of the Congress of the United States?

Mr. SEREYSKY. Yes.

Mr. HARRIS. There is no precedent about such legislation, then. This is not a precedent?

Mr. SEREYSKY. No, sir. Autoalarm is included in the Communications Act of 1934 as being mandatory on board ship.

Mr. HARRIS. Do you know of any opposition to this proposed legislation other than the Government agencies involved?

Mr. SEREYSKY. No, sir.

Mr. HARRIS. That is all.

Mr. SEREYSKY. Thank you.

Mr. HALE. Thank you, Mr. Sereysky.

Mr. McCormack, would you answer a question of mine, please?

Mr. MCCORMACK. If I can.

Mr. HALE. I presume this bill is before the committee because it proposes an amendment to the Communications Act of 1934. Obviously it relates to the merchant marine and the safety of life at sea. It seems a little odd that the Committee on Merchant Marine and Fisheries should not be allowed to give the matter some consideration. I don't know what the practical answer is. I was on the Committee on Merchant Marine and Fisheries in the 79th Congress and we considered legislation which was closely similar to this.

Have you any comment on that situation?

Mr. MCCORMACK. All I know is that the bill was referred in the ordinary way under the rules of the House to this committee. We all introduced bills. I introduced one and it was referred to this committee.

The Speaker referred it to this committee. As a practical operation, we know that the Parliamentarian usually looks the bills over and he

suggests the references, with the Speaker always having the ultimate right and power.

Mr. HALE. My question implied no criticism of anybody.

Mr. MCCORMACK. No, I understand that.

Mr. HALE. It was simply the fact that this legislation involves not only questions of communication but questions of safety of life at sea, which is ordinarily the function of the——

Mr. HARRIS. Would the chairman yield?

Mr. HALE. Yes.

Mr. HARRIS. This is an amendment to the Communications Act of 1934, which, of course, is within the legislative jurisdiction of this committee.

Consequently, it is referred to this Committee on Interstate and Foreign Commerce.

Mr. HALE. There is no question about the jurisdiction of this committee.

Mr. MCCORMACK. May I present another witness?

Mr. HALE. Yes.

Mr. MCCORMACK. Mr. Morris Harvey Strichartz, representing the Maritime Union of the CIO, and who, I understand, is an experienced operator.

Mr. HALE. The committee will be glad to hear you.

STATEMENT OF MORRIS HARVEY STRICHARTZ, REPRESENTING THE MARITIME UNION OF THE CIO

Mr. STRICHARTZ. My name is Morris Harvey Strichartz. I am the technical director of the American Radio Association, CIO, the members of which are radio officers aboard United States merchant ships. The ARA–CIO has collective bargaining agreements with 201 steamship companies operating every type of vessel—passenger ships, freighters, tankers, and colliers—out of the Atlantic, Pacific, and Gulf of Mexico coast ports. This statement is made on behalf of the CIO maritime committee, of which the American Radio Association is a member.

The work of the ship radio officer is to provide sea safety through radio. That is why we are interested in the legislation under consideration by your subcommittee, H. R. 6004. Great business benefits result from the routine communications activities of the ship radio station, but if that were the only factor involved, the Congress would not be legislating on this matter. The fact is that more is involved. Without belittling our activities in handling routine communications for facilitating ships business, we recognize that underlying the radio requirements set by the Congress in the Communications Act of 1934, as amended, which this bill proposes further to amend, is the fact that the public interest dictates that provision be made for the safety of life and property at sea. The very statement of purposes of the act, section 1, establishes it for the purpose of—

> regulating interstate and foreign commerce in communication by wire and radio so as to make available, as far as possible, to all the people of the United States a rapid, efficient, nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication * * *.

Radio equipment is required aboard the ships, and we radio officers are required aboard the ships for safety through efficient communications. Note also that reference to an efficient communications system for the purpose of the national defense.

To increase the efficiency of communications so as better to provide for the national defense as well as safety of life and property at sea, we wish to go on record in favor of this bill with certain improvements and safeguards, which I shall indicate in this statement.

Because this bill provides compulsory installation of a particular piece of equipment, we would like, at the outset, to make clear that this bill must have written into it safeguards against establishing a monopoly for any 1 piece of apparatus, the holder of any 1 patent or set of patents, or any 1 radio equipment company which might hold such patents and manufacture such equipment. Specifically, the bill should have added to it, the requirement that patents for such equipment as is type-approved by the FCC for compulsory installation to meet the requirement of this bill must be made generally available through fair and reasonable arrangements for licensing of patents to such equipment.

The custom is for the manufacturer to submit a piece of equipment for type approval. Then after it has been type approved, its installation is permitted under the one single authorization of type approval.

About the only thing that can be said for marine radio apparatus is that it is built ruggedly, capable of taking the impact of mechanical shock it receives in rough seas. This is partly because the Government agency that is charged with the responsibility of regulating to foster advance, the Federal Communications Commission, has taken what must be described as a stick-in-the-mud approach to the problem of fostering advancement of the marine radio art. Their completely negative attitude toward this bill, as embodied in their comments on it filed with this subcommittee, is typical.

This is not to say that the Federal Communications Commission has not done a worthy job of administering the law. It has enforced the marine provisions of the Communications Act, in its numerous ramifications, worthily. We have had our differences with the Commission on some matters, and we have sided with the FCC on other dockets, but in general, we have no cause to complain that the FCC is not enforcing the law well, because it definitely is. It may be that it is too much to ask of a regulatory body that it undertake to sponsor, foster, and stimulate technical advancement; perhaps that is a function that the Congress cannot delegate, but must continually interest itself in, especially in so sluggish a field as the maritime industry which has not applied much stimulus for progress to the FCC. The maritime industry is heavily burdened with age-old traditions making change very slow. The seas and the tides, the winds and the currents haven't changed much since Noah sailed the Ark, but neither has the maritime industry. Where maritime radio is concerned, the FCC seems to have accommodated itself to the same lack of drive for advancement that is common to the maritime industry. That is apparently the only explanation for the negative stand the FCC has taken toward this bill. By way of providing background for this discussion let me sketch briefly what the communications provisions aboard the ships are at present, and how they operate.

All American-flag merchant vessels except about 50 passenger ships carry only one radio operator, to whom Congress granted the status of a licensed officer in 1947. The radio officer stands watch in the ship radio station, or radio shack as it is called, for 8 hours a day, listening to signals on 500 kilocycles, which is the main international calling and distress frequency.

There are other distress frequencies. The 1 second in importance was 8280. It is now 8364.

Mr. HESELTON. What is the ordinary tour of duty by hours?

Mr. STRICHARTZ. Radio officer doesn't spend 8 straight hours in the radio room, but in a spread of 12 hours he is on watch 8 hours. He will probably go on watch from 9 to 12, go back on watch from 2 to 5, and then go on again from 7 to 9. This stretches him out over the 9-hour spread.

Ships of all nations initiate calls on this frequency, but then immediately shift to another frequency to send or receive the actual messages. When a ship is in distress, it is on 500 kilocycles, the international distress frequency, that the distress call, the S O S is sent. All subsequent message traffic between the vessel in distress and the ships proceeding to its assistance is carried on 500 kilocycles.

The reason for this is to apprise all vessels as they come on watch of the existence of the distress situation and the fact that distress traffic is in progress.

Other vessels must maintain complete silence on 500 kilocycles during such distress traffic. What about ships which have only 1 radio officer, who has completed his 8 hours of watch when the distress signal is sent? We have always felt that to adequately provide for this eventuality, a continuous human radio watch should be maintained, by at least three radio officers. This is the practice aboard naval vessels, but that approach was rejected in the maritime industry, about a quarter of a century ago when a substitute was offered, a device known as the autoalarm.

The autoalarm is a unit which is supposed to receive and respond to what is known as the international autoalarm signal; a vessel in distress is supposed to follow the following procedure: transmit on 500 kilocycles 12 long dashes, each 4 seconds long, separated by 1-second intervals. In theory, the autoalarm apparatus is supposed to be activated by any four consecutive dashes, which is supposed to ring bells in the radio officer's quarters, on the navigating bridge of the vessel as well as in the radio room, to summon the radio officer to go on watch to listen for the distress message of the stricken ship. Two minutes after the transmission of the autoalarm signal, the actual distress message is supposed to be sent. Note that I have stated each of the procedures as hypothetical ones, since that is the ideal condition which unfortunately does not always prevail, due to lack of time and other reasons.

We also know that the efficiency of the autoalarm apparatus is severely limited by a number of factors:

First, it receives signals through a regular radio receiving circuit, and when there is a high level of atmospheric disturbance known to the layman as static, the sensitivity of the autoalarm is affected for the worse. You gentlemen are used to modern home receivers, designed to receive strong, locally originated signals from broadcasting stations. In vast areas of the world, however, high levels of static

prevail a good deal of the time. Most of the time, almost all of the time, in the Tropics, for example, a radio officer listening with the perception of human hearing and applying his intelligence to what he hears must detect, discern, and pick out signals against a background of noise that amounts to a steady roar. When that condition is encountered, when there is an unfavorable signal to noise ratio, as it is called, the autoalarm will not be activated.

In setting the autoalarm on watch when the radio officer leaves the watch, leaves his regular listening watch, it is necessary to set the sensitivity in accordance with the level of static. If the static level is too high the sensitivity must be set extremely low.

When that occurs it will not respond to the international autoalarm signal or to any signal because the sensitivity is so low that the ratio of the signal to the noise background will not be such as to activate the autoalarm unit.

Second among the severe shortcomings of the autoalarm is the fact that the autoalarm signal, and the autoalarm apparatus which it is used with, may only be used by a vessel in actual distress situations, when they have already been overtaken by disaster at sea and are in danger of sinking. The only other time it may be used is when urgent cyclone messages are to be transmitted, and then it may not be used by another ship which has actually at first hand encountered this situation, but only by a land station known as a coastal marine radio station.

That is the net total of the operation of the autoalarm. It is not available other than in these two specific situations—a vessel in dire peril of sinking, and when the transmission of a cyclone message has been authorized by a coastal station after it has received that information from a ship encountering that condition.

What this amounts to is a long since outmoded approach to the problem of safety which considers safety only in the sense of rescue, after danger has already befallen the vessel and its crew. A more sensible approach would be to consider also prevention. More lives are saved by preventative medicine and sanitary safeguards than by any miracle drug, and the same thing could very well be true in the terms of preventing maritime disasters.

For example, ships known to be heading into areas of danger from a known menace of navigation such as a floating mine, a derelict dangerous to navigation, or sudden bad weather conditions could be alerted and rerouted around that danger.

This is only one form of preventative safety measures which could be applied, once the preoccupation with the outmoded conception of safety as being only rescue after the catastrophe is discarded.

Even the search and rescue aspect of safety—certainly not a minor one to the men whom disaster has overtaken, and it should be considered of great importance—could and should be greatly improved. But the FCC along with the rest of the maritime industry has been content to stand pat on the old autoalarm system, for over a quarter of a century unimproved except in minor respects.

Apparently the autoalarm is viewed as having served the purpose of staving off the clamor for a continuous human watch, and whether it operates well or badly, whether it plays a poor or passive part in providing safety, whether it is blocking the way to superior provisions for safety, whether it has been improved at all in 30 years, does not

receive consideration. Well, it is time for such consideration to be given to these questions, and this subcommittee, in the improvements it can and should make in revising and approving this bill, can play a worthy part toward that end.

Passage of this bill would require the installation of an automatic radio call selector on cargo vessels carrying only one radio officer. If this were all that were required, it would be a big step forward, but not enough. By facilitating and improving communications, by making them more selective and directive, there is an undoubted increase in the safety function of communications, for a number of reasons:

(1) Specific ships known to be in the vicinity of a distressed vessel may be called directly by use of that vessel's own call sign;

(2) During protracted distress traffic the single radio officer on a cargo vessel working traffic with the distressed vessel is assisted in responding to calls when in an exhausted state after continuously operating alone over a period of days;

(3) Medical assistance and transfer of sick or injured at sea may be facilitated;

Here is a device which can assist you in that situation. This is by no means an exceptional situation. This is the practice in rescue and distress situations, because ships which do not go down are under continued standby condition, and the vessels which handle their communications are in this protracted state of communication.

(4) Promulgation of weather information may be facilitated and ships cautioned to avoid exposure to needless danger by receipt of such weather information;

(5) Response of ships to lifeboat transmitter signals sent by survivors whose vessels may not stay afloat till rescuers reach them will increase the rescue possibilities of such survivors.

We could continue on with the list, but the most important fact is that with the new approach to safety, many more ways to improve safety by a preventative rather than a solely resuce approach would suggest themselves.

But to provide greater safety through approaching the matter along the lines of preventative measures, a change must be made in the provisions of the bill that would increase the usefulness of the apparatus required by making it capable of being set manually to respond to all of the international signals that relate to safety signals that the autoalarm does not respond to:

(1) The international distress signal (S O S);

(2) The international safety signal (T T T);

(3) The international urgent signal (X X X);

(4) The ship's call sign; and

(5) To provide a national defense feature of value, it should be made capable of responding to any other predetermined code that is desired for use in national emergencies.

Everybody knows S O S is that a ship is in dire peril and assistance is needed, and please come help.

T T T, international safety signal, is the signal which precedes the sending of an importance notice on navigational weather, a notice which all ships should receive.

At present there is no way of alerting all vessels in the vicinity of a known danger.

T T T should be incorporated into the unit, as should the S O S.

X X X revolves around the safety and welfare of a single ship or a single person or a group of persons on that vessel, or sighted from that vessel, or in connection with the single unit, the ship.

T T T is in connection with safety of all ships in a general vicinity while the S O S is the dire distress.

In addition the call sign should be in the unit, and, fifth, to provide a national defense feature of value, it should be made capable of responding to any other predetermined code that is desired for use in national emergencies.

On this fifth item, during the war I sailed in a number of convoys.

The communications problem in convoy is selectively to reach all vessels under the control of the convoy commodore do execute any number of types of maneuvers.

For example, you are running blacked out, you are a certain distance from each other, and suddenly the convoy becomes aware of the need to zigzag because of dangers.

There are zigzag patterns that are already distributed at the convoy conferences. None of these things are secret. They have long since been declassified.

When these patterns are to be put into effect they are triggered by radio signals, but the desire of the convoy commodore is to reach every ship in his convoy and to reach only those ships in the convoy, but not merely the ships in the convoy but convoy stragglers and other convoys and other vessels which are preceding or following the convoy for a number of reasons.

By making it possible to respond to a predetermined call, which can be set manually and reset daily by a pattern, as is the practice, a national defense feature of value could be added to our shipping.

Certainly it is within the jurisdiction of this committee to consider a defense feature in relationship to a unit which is primarily a safety and calling device.

Inclusion of all these calls, in addition to those required in the bill, which requires only the ship's call letter, would constitute the first great step forward taken in marine safety through radio for a long time. Vessels whose autoalarms were not activated by the autoalarm signal, which was the one-shot chance when the vessel goes into distress, would then be capable of being activated by S O S signal. S O S signal is used regularly prior to the transmission of any message, however routine, in the distress traffic.

The reason for that is to make available the priority on the air, to establish the fact that distress traffic is in progress.

In the course of a distress traffic, the S O S is used hundreds of times. Auto alarm may be used once, it may be retransmitted during the first silent period following that, and that is the end of it.

A vessel whose autoalarm doesn't respond to the first autoalarm signal is not likely to be in a changed static condition and it is not likely to be responsive to the second.

But here you have dozens and hundreds of chances in any protracted traffic of alerting ships by means of this S O S call.

The other calls are necessary to provide for alerting vessels in the vicinity prior to the transmission of messages that are of a safety character, but which do not originate from an already sinking ship.

These other messages are of importance in the preventive side, in preventing the worst situation from coming to pass.

The electronic age is upon us, and its fruits should enrich all spheres of our existence, every branch of our activities, all of our industries. They should not be denied to the men who sail the ships, certainly not because other countries are dragging their feet, certainly not because they might cost a few dimes a day, certainly not because we have an autoalarm that is as inadequate and as unreliable in its old age as it was in its youth.

Nor should we permit the fact that the international radio standards now require only an autoalarm to nail us down to that low level.

The United States Navy does not even use autoalarms to any appreciable degree, if at all, but prefers to have its vessels of comparable size stand a continuous human radio watch. What is more, the Navy is not sitting on its hands with respect to electronic progress, but it continues to install more modern electronic apparatus aboard its vessels.

In the light of these facts it is difficult to understand why the Navy Department should begrudge such improvements to the merchant vessels and to the men who sail them. After all, as our fourth arm of defense, the United States Merchant Marine rounds out the seapower of the United States, carrying military supplies to support our military forces wherever they may be in wartime; the United States Merchant Marine tankers, for example, are used to supply the petroleum needs of naval task forces. Tankers operate along with these task forces as refueling ships for these naval vessels.

During World War II, for example, merchant marine vessels had three radio officers placed aboard them; this, in itself, was an implicit admission that the communications provisions aboard United States merchant vessels is inadequate.

Why, then, should we be held down to simply one radio officer and an autoalarm? Certainly the few dimes a day that any piece of equipment costs is not a reasonable argument, because who can measure the financial value of human lives? Who, for that matter, can place a financial value on even one single human life?

It is true that American ships, at first, would be the only ones to have this apparatus aboard. That would simply mean that American ships and American seamen would be the first ones to benefit from them, for in the nature of this equipment other ships do not have to have them aboard. The unit would respond to signals made by equipment carried by all vessels, simple Morse code characters grouped together as the ship's call letters or other safety signals suggested above.

Absence of this unit aboard foreign ships does not prevent American ships from serving as the links in a radio network of ships which may make the difference between the life and death of a seaman and passengers.

Argument against such a requirement because of ships of other nations not at first having such a piece of equipment is indicative of the unprogressive approach referred to earlier in our statement.

America has always played a leading part in placing new technological frontiers and never has been satisfied to trail behind the standards of countries with lower technical and economic levels. With such a backward approach we would not now have the high standards which were first initiated aboard American ships.

American ships lead the way in having vacuum-tube transmitters when arc-and-spark transmitters were the rule and when the backward nations simply would not put out the necessary financial expenditure for replacing their equipment with vacuum-tube transmitters. That is just an example.

For that matter we would not have the many other things that only we in America have and enjoy to the envy of the world if the attitude were "wait until the foreign nations do it first; or, wait until we get the whole world to do it together."

There is no doubt that following the sea for a living is not an easy existence. Seamen pursue a hazardous occupation and they know it. We cannot complain when the wind blows a hurricane, but we certainly want the best chance of our particular ship on which we are working avoiding that hurricane if it can be rerouted, and we certainly want the best chance of survival if that hurricane pounds to pieces the ship on which we are working.

We do not think that improving ship radio safety through requiring this improvement of ship radio installation is an extravagance. But we know from experience that the maritime industry is slow to adopt new methods, and it is frankly loathe to put new equipment aboard no matter how little it costs.

As a case in point, as a matter of fact, the classic case which the committee should certainly take under consideration in viewing the entire matter of whether this device should be required compulsorily or left to the discretion of companies, let me tell you what happened to the lifeboat radio transmitters which were placed aboard United States merchant ships during World War II by orders of the United States Navy.

At the end of the hostilities, when the Navy relinquished control of the Merchant Marine, the requirement that they be aboard expired. The shipowners did not even have to buy these units. They were already aboard the ships. They were theirs free for the keeping. Yet we witnessed the obscene spectacle of their hasty removal from the ships. Why? To save the cost of their maintenance and repair, an amount that was so minute it is amazing.

There were numerous vessels lost and many men who perished in open lifeboats and stormy seas before they could be rescued might be walking the earth today if they had been able to direct rescuers to their lifeboats sooner by means of the equipment which was cruelly ripped off the ships.

Only last autumn did lifeboat transmitters begin coming back to the ships again where they were required by Government regulation, but the lesson of that experience stays with us.

Maritime industry cannot be relied upon to do anything, provide any new radio safety equipment, unless it is a Government requirement. That is why we appear before your committee. The rest is up to you gentlemen.

In summary, it is our firm belief that your committee should do the following:

(1) Write into the bill the necessary language to safeguard against establishing a monopoly condition with reference to the equipment the bill requires, as discussed at the beginning of our statement. This language should be worked out with the Antitrust Division of the Justice Department.

(2) Strengthen the provision for safety by adding to the bill the requirement that the apparatus be capable of being set manually to respond to all of the following Morse Code signals:

(*a*) The ship station call letter;

(*b*) The international distress signal (SOS);

(*c*) The international safety signal (TTT);

(*d*) The international urgent signal (XXX);

(*e*) Any other predetermined code which is desired for use in national emergencies. Appendix A is the form in which the bill should be favorably reported, on this point.

(3) Permit the FCC to defer application of the requirement of this equipment for a reasonable length of time to make possible the design or redesign necessary to implement our suggestions for safeguards and improvements, as well as for the manufacture and installation of this equipment; but in no event for longer than 18 months.

The bill at present provides for 1 year, but it concerns a narrow situation, a piece of equipment already in existence.

I have discussed the question of the amount of time necessary for the design, the manufacture of pilot models which the FCC then must approve, and the tests that go into that, and then the mass production of the equipment; 18 months is the figure which is given as a consensus by the engineers in the industry.

I had occasion to discuss this with reference to a previous piece of equipment, lifeboat radio transmitter, which was first required by Government regulation in about July to October of 1952, but the installation was deferred to November of 1953 with a possibility of further deferment to November of 1954.

That is the total of our statement.

Attached to this statement is an appendix A in which we reword the final 12 lines of the bill in line with our suggested changes.

(The appendix referred to follows:)

APPENDIX A

For lines 1 to 12 on page 4 of the bill, substitute in its entirety the following section:

"(b) The automatic radio call selector installed on any ship in accordance with this part shall be capable of being set manually to simultaneously receive and identify and respond to the following Morse code signals:

"(1) the ship station call letters;

"(2) the international distress signal (SOS);

"(3) the international safety signal (TTT);

"(4) the international urgent signal (XXX);

"(5) any other predetermined code which is desired for use in national emergencies.

"It shall provide a means for receiving such signals on both distress frequencies (five hundred kilocycles and eight thousand three hundred and sixty-four kilocycles), selectively but with respect to frequency not simultaneously, and shall sound an alarm if, but only if, any of the above five signals are received. Such alarm shall be sounded in the radio office, on the bridge and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent of any other radio equipment on the ship."

Mr. STRICHARTZ. The Antitrust Division of the Justice Department should be consulted on language to prevent the monopoly, and I am sure that you gentlemen will find this to be true: If this equipment is required it will enhance the safety of communications aboard the vessels and place our merchant marine well in advance of the foreign merchant marines, and the only way you can compete

today is if you are capable of responding to every possibility on the world charter market.

In my capacity as a union official I have occasion to concern myself with business conditions because, after all, they are bread and butter conditions of our membership.

We do know this to be true: That a vessel which can place, or a company which can place a ship on berth to receive a cargo on short notice, is capable of competing and surviving.

We do know that many ships take a cargo which is just break-even cargo, to put a ship in a vicinity where it is anticipated there will be other cargoes.

The vessel then starts back to the United States empty. If it can be diverted by means of superior communications facilities there will be a business benefit.

I have not discussed the business side of it because, very frankly, we have often been told the business side is no concern of ours except when we come with our hands out for wage increases.

That is not a matter for this committee. The communications aspect, communications aspect and safety aspect, is one we interest ourselves in.

With the suggestions we have made we would most certainly endorse the bill and recommend its passage.

Mr. HALE. Mr. Heselton?

Mr. HESELTON. In connection with your testimony regarding difficulties of the automatic system receiving the S O S because of static conditions, would this particular system under discussion now be able to avoid that static condition?

Mr. STRICHARTZ. No system can avoid a static condition, but if the autoalarm at 12:23, when the first autoalarm system is sent, if the static condition is high, and the autoalarm is not activated for that reason, and then at 12:45 to 12:48 it is repeated and a static condition still is high, and autoalarm still is not activated for that reason, that is it. That is all the autoalarm can do.

But with a device that will respond to S O S it is used for hours, through the night, around the clock and for days, and with such a device you have a continual possibility of breaking off an alarm and summoning the radio officer on watch.

The classic condition where a radio officer was not on watch, where he could have done a lot of good, was in 1912 in the *Titanic* disaster.

The steamship *California* radio operator stood watch for 12 hours, and he had gone to bed at midnight. A few minutes after midnight S O S was sent.

Next morning he woke up and went on watch to discover to his horror that hundreds of people were in the water.

Steamship *California* then was turned around and steamed to pick up survivors.

Nobody can say definitely whether those survivors would have been picked up or not, but we do know that from the survivors' accounts of that great sea tragedy there were men who hung on for hours and then finally, as their hands froze and became numb, they let go of the wreckage and sank into the sea.

That is the classic condition which the attention of everybody was focused on until the autoalarm was supposed to have solved that.

Frankly it is an inadequate solution. We think that the three radio officers should be carried. Practically and realistically they are not carried. We cannot see any prospect they will place them aboard.

But we see no reason why for 30 years we should stand pat, mark time in one position.

Thirty years ago you hadn't even entered the electronic age. Radio texts of then and now look like the difference between a primer which used to teach children how to read and a modern book. You had the whole advent of the electronic age with about 40 percent of your physicists engaged in electronic activities, and none of this stuff has come aboard the ships.

I read the engineering material on equipment in the airlines, and they are far in advance in some respects on electronic equipment.

The ships took a direction finder aboard during the twenties that was invented in 1917–18, or 1916. They have still got essentially the same thing aboard with some few refinements.

Ships took reserves aboard in the 1930's and they are still aboard.

Apparently the only way progress is made in the maritime industry is when the Government orders that this be placed aboard. The requirement of compulsory direction finder did not go into effect until last year.

Mr. HESELTON. I do not mean to cut you off but the hour is getting late. I do not think you quite understood my question, or perhaps I did not make it clear.

I take it for granted that the existence of these two systems on so many of the ships today is clear evidence that at least most shipowners and others concerned find they are useful for a variety of reasons.

The point I was not clear on, and I am not enough of a technician to know about it, and the record ought to be made clear, is this: Would this other system we are talking about now supplement the automatic alarm by virtue of some other wavelength being used and thereby minimizing the possibility that S O S would not get through because of static conditions and your signal would get through?

Mr. STRICHARTZ. That is correct. It would supplement the autoalarm when static makes the autoalarm signal incapable of getting through. Then the S O S signal which follows 2 minutes later, and the S O S signal which is used continuously for the whole duration of the distress traffic, could then get through, while the autoalarm signal is a 1- or 2-shot affair. The S O S could get through and it is used by all ships of all nations. So in that sense it supplements it not on another frequency but by being activated by another signal.

Mr. HESELTON. Activated by what?

Mr. STRICHARTZ. Another signal, S O S signal rather than the——

Mr. HESELTON. S O S runs on 500?

Mr. STRICHARTZ. As well as the autoalarm.

Mr. HESELTON. Yes; as well as the autoalarm. What wavelength is this on?

Mr. STRICHARTZ. The same, 500, and 8364.

The 8364 is the subordinate distress frequency; 500 is the main, intermediate distress frequency.

Mr. HESELTON. I wonder if through your experience you have been able to find any actual instances where the use of this other system has actually given evidence of being of value in terms not only of the

actual distress but in terms of being able to help shipping so that they could avoid difficulties?

Mr. STRICHARTZ. It has given proof of value in a number of situations. The logs and distress history of a Moore-McCormack line freighter, for example, where the radio officer spent days in distress traffic and was in an exhausted condition, and used the alarm signal which responded only to his ships call to supplement his perception, which was considerably dimished by exhaustion. That was one situation.

Let me point out that we are asking for a considerable broadening of the item so that it could not have given use in a TTT or XXX situation because it has not been set to respond to that. But in the nature of the equipment it can be set manually, and by parallel circuits these other signals can be incorporated into the unit.

Mr. HALE. Are there further questions?

Thank you very much. We are glad to have your testimony.

Next is Mr. Green.

Do you wish to testify before the committee, Mr. Green?

Mr. BENJAMIN B. GREEN. I have nothing to say, sir.

Mr. HALE. Are there any other persons present who desire to speak either in behalf of this measure or in opposition thereto?

STATEMENT OF IRVING BROWNSTEIN, FEDERAL COMMUNICATIONS COMMISSION

Mr. BROWNSTEIN. I am a member of the staff of the Federal Communications Commission.

Will the previous comments of the Commission be incorporated into this record?

If they will not be so incorporated we will request that they be incorporated.

Mr. HALE. You refer to previous comments of the Commission. Are you speaking of comments made in connection with H. R. 5023, or some other comment?

Mr. BROWNSTEIN. Our comments with respect to H. R. 6004 incorporated the comments previously submitted in connection with the first bill.

Mr. HALE. By the first bill you mean H. R. 5023?

Mr. BROWNSTEIN. That is correct, sir.

Mr. HALE. Just the comments to which you refer, those embodied in the report of the Federal Communications Commission. They will definitely be made part of the record in this case.

Mr. BROWNSTEIN. Thank you, sir.

Mr. HESELTON. Mr. Brownstein, you are the assistant chief of the Marine Division of the FCC?

Mr. BROWNSTEIN. That is right, sir.

Mr. HESELTON. In the letter of July 27 I note a specific statement there which incorporates by reference the adverse comments on the previous bill. Is that right?

Mr. BROWNSTEIN. That is correct, sir.

Mr. HESELTON. You have heard all the testimony here this morning. You have been present all morning?

Mr. BROWNSTEIN. Yes.

Mr. HESELTON. Do you have anything that you wish to say in connection with any of that testimony which, as I see it, has quite substantially broadened the objectives of the bill, at least as far as the committee is concerned, and has set up some rather interesting and I think rather constructive possibilities in terms of the use of this additional device in supplementing the autoalarm.

Mr. BROWNSTEIN. Sir, our previous comments, which, of course, were approved by the Commission itself, were directed to the bill as it was submitted to us.

Mr. HESELTON. That is why I asked the question.

Mr. BROWNSTEIN. Therefore, our comments went to the place that such a device would have in a distress situation. We could not see that the known advantages that might be derived from such a limited device would play a substantial enough part in the distress situation to warrant making the device a mandatory one; that is, by means of legislation.

Now, it has been proposed here that the capabilities of the device be expanded so as to encompass other features as well. I am hesitant to speak without prior consultation with the Commission on that.

Mr. HESELTON. I do not want to press you on that. I can understand that you would want the advice of the Commission, but I must say this publicly, I do not think standing alone the comments of the Commission, or for that matter, the Navy and the Commerce Department, are particularly significant.

I think the testimony that has come in here this morning has opened up a very much larger field. While I am not committing myself at this moment, I certainly think it is a field that should receive the considered study of the various agencies, and if they then feel this broadened field does have advantages that the committee should consider, I think the committee ought to have the benefit of the revised opinion. Would you agree to that?

Mr. BROWNSTEIN. Sir, I think that should be done.

Mr. HESELTON. To save time, I believe that there is a representative of the Department of the Navy here. Would you take judicial notice of what I have said to the representative of the Federal Communications Commission in terms of the report that we have from the Navy Department and to see if there are any further comments that the Navy Department wants to make after consideration of this testimony this morning?

STATEMENT OF LT. C. B. KLOMBIES, MILITARY SEA TRANSPORT SERVICE, DEPARTMENT OF THE NAVY

Lieutenant KLOMBIES. Our comments were submitted upon the bill as it is written at the present time, sir, in which it states in the latter part of the proposed amendment, that the automatic radio call selector's operation shall be limited to the ship's call, and only to the ship's call. That is the basis upon which we predicated our comments. If the bill is revised to include many other operating features, we would have to take a look at it to determine whether or not it would be applicable for our benefit.

Mr. HESELTON. I do not know whether you have seen the last statement. There is a suggested amendment in there, and I hope you will not feel that the Navy will reserve its comments until the

committee has acted, but will be willing to look at the suggested amendments and then if they are required to make a revised comment, to do so.

Lieutenant KLOMBIES. I think that would be all right.

Mr. HESELTON. Thank you.

Lieutenant KLOMBIES. I would like to enter one thing into the discussion, the fact that as far as the Military Sea Transportation Service is concerned, we operate quite a number of ships, in excess of 150 at the present time. During the height of the Korean trouble we had in excess of 150 ships that were operated both by civil service personnel and by civilian merchant marine personnel. Our ships would be affected because we, as MSTS, have adopted the policy that insofar as those ships are concerned, we will adhere to the safety at sea requirements as set forth by both the Federal Communications Commission and the Coast Guard. The mandatory requirement for such a device, as has been proposed would seriously affect us from a monetary standpoint.

Mr. HESELTON. I believe testimony was given to the effect that the Coast Guard to some extent, and the Transportation Service in the armed services, were taking advantage of this particular device.

Lieutenant KLOMBIES. That is in the case of civil service manned ships and our contract-operated ships.

Mr. HESELTON. Have you found it useful in terms of actual practice?

Lieutenant KLOMBIES. It was a matter of policy that the service adopted the provisions of the safety at sea requirements, as set forth.

Mr. HESELTON. I understand that. What I was trying to get into the record was, in your experience, and in the experience of the services in using it, have you found instances where it has been of value to the service?

Lieutenant KLOMBIES. The automatic alarm, or the radio call selector?

Mr. HESELTON. The radio call selector.

Lieutenant KLOMBIES. We do not have an automatic radio-call selector on any of our ships, to the best of my knowledge.

Mr. HALE. By, "we" you mean the Navy?

Lieutenant KLOMBIES. The Military Sea Transportation Service; yes.

Mr. HESELTON. I was in error then. I thought that there was testimony that some of them had.

Lieutenant KLOMBIES. Not the MSTS.

Mr. HESELTON. The Coast Guard.

Lieutenant KLOMBIES. We do have the automatic receiving alarm.

Mr. HESELTON. Do you know whether the Coast Guard has some ships with it?

Lieutenant KLOMBIES. I would not be able to say, sir.

Mr. HESELTON. Thank you.

I would like to suggest that copies of the statements be sent to the departments that have not responded with a request they look at them and see if they wish to make any supplementary statement.

Mr. HALE. Do you mean the statements of Mr. Sereysky and Mr. Strichartz?

Mr. HESELTON. Yes. That would include the Secretary of Commerce. I think that it would be useful if the Coast Guard has actually had experience in this field, as I understand they have, that we have some sort of statement from them.

(The statements requested were later received and appear at the end of this hearing.)

Mr. HALE. Is there anyone else who desires to be heard?

The committee is advised that the American Merchant Marine Institute, Inc., objects to the bill, and they will be given an opportunity to file a statement in opposition thereto.

We will insert into the record at this time letters from Mr. Francis T. Greene, executive vice president, to the Hon. Charles A. Wolverton, chairman.

(The letters referred to are as follows:)

AMERICAN MERCHANT MARINE INSTITUTE, INC.,
Washington, D. C., May 4, 1954.

Subject: H. R. 5023 and 6004—Automatic Radio Call Selector.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
United States House of Representatives, Washington 25, D. C.

DEAR MR. WOLVERTON: Reference is made to the record of hearing held yesterday, May 3, on the above bills. It is noted that certain important amendments to the bills have been proposed which completely change the character of the equipment under consideration.

This bill as introduced would require the installation of a radio call selector device aboard oceangoing vessels. The new type of device which was first recommended during the hearings and which is now under consideration has never been considered by the industry from either its operational or technical aspects. A meeting of the telecommunications committee of the American Merchant Marine Institute has been called for May 6 to consider the feasibility and desirability of the new device.

Accordingly, we would greatly appreciate being granted a period of 10 days in which to examine this matter in the light of the proposed amendments.

Sincerely yours,

FRANCIS T. GREENE.

AMERICAN MERCHANT MARINE INSTITUTE, INC.,
Washington 6, D. C., May 17, 1954.

Subject: H. R. 5023 and 6004—Automatic Radio Call Selector.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
United States House of Representatives, Washington 25, D. C.

DEAR MR. WOLVERTON: Reference is made to our letter of May 4 wherein a period of 10 days was requested in which to examine amendments proposed to your committee in connection with the above bills. These amendments were considered by the institute's telecommunications committee on the dates of May 6 and 7, and resulted in adoption of a statement of position thereon. The matter was further considered by the institute's board of directors at a meeting on the 13th and we have been instructed to submit the enclosed statement adopted by the AMMI telecommunications committee as the institute's position in this matter.

Sincerely yours,

FRANCIS T. GREENE,
Executive Vice President.

STATEMENT ADOPTED BY AMMI TELECOMMUNICATIONS COMMITTEE RE H. R. 5023 AND H. R. 6004

H. R. 5023 and H. R. 6004 would amend part 2 of title 3 of the Communications Act of 1934 so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than 2 radio operators. The effect of this proposed legislation would be to require all United States cargo vessels of over 1,600 gross tons to become fitted with a so-called automatic radio

call selector or else carry 2 or more radio operators and maintain a continuous radio watch. Cargo vessels of the United States presently carry one radio operator and an automatic alarm device. The radio operator is required to stand an 8-hour watch for safety purposes, and the automatic alarm apparatus must be in operation at all times when the radio operator is not on watch. The automatic radio call selector would be required in addition to and is not proposed as a replacement for the present automatic alarm apparatus.

The automatic radio call selector described in these bills is a device which would be capable of receiving and identifying the call letters of a ship in Morse code on both of the radio frequencies 500 kilocycles and 8,364 kilocycles, selectively and not simultaneously, and sound an alarm if, but only if, the call letters of the ship are received. Testimony submitted by the proponents at hearing on May 3, 1954 would amend the specifications of such device to include additional features. As so amended, the device would be required to respond to the international distress signal SOS, the international urgency signal XXX, the international safety signal TTT, and some predetermined code which may be desired for use in national emergencies, all in addition to the initially specified ship station call letters.

The features covered by the proposed amendments all relate to emergency and safety matters. We discuss this aspect first because, if there should be any justification at all for this legislation it must be based upon the value or necessity of such a device for maritime safety. We oppose the proposed amendments for the following reasons:

1. A device to perform the functions which would be required is not in existence. We believe it both inappropriate and premature to consider the mandatory installation of an unknown and undeveloped piece of equipment, even if the purpose of such a device should be found to be desirable.

2. If such a device could not be developed, tested, and proven operationally reliable to the satisfaction of the Federal Communications Commission within the 12-month period specified, all United States cargo vessels, as a result of this bill, would thereupon be required to maintain a continuous radio watch by means of qualified operators.

3. When reduced to practical operations the novel aspect of this proposal is for the general alerting of all vessels in connection with the receipt of safety and urgency messages. This is a radical departure from long-established, internationally specified marine safety communication procedure. International regulations specify only one device for general alerting (autoalarm), and the procedure for general alerting is specifically limited to actual distress situations and urgent cyclone warnings. [International Radio Regulations, sec. 922.]

4. There are substantial reasons why general alerting is considered neither necessary nor desirable with respect to urgency and safety messages. The following are illustrative.

(*a*) International Radio Regulations provide that "Where the urgency signal is used by a mobile station, it must, as a general rule, be addressed to a specific station" [sec. 938].

(*b*) The safety signal is used to announce the transmission of important meteorological warnings or messages concerning navigational hazards. In practice, such messages are directed to and are concerned with local areas. In order to assure coverage any particular safety message is transmitted by all Coast Guard and Navy stations within or contiguous to the area, not once but several times. The result is multiple transmission of the same message many times over. This same practice is followed internationally. Ships normally cover broadcasts of this nature relating to their area of interest, and all necessary information is certain to be picked up during transmissions which occur during normal radio watch hours. The application of general alerting to the safety signal would only result in ships over wide areas being constantly alerted during off watch periods in connection with repetitious messages in which only those ships in the immediate vicinity have any direct interest.

5. General alerting for actual distress transmissions is already provided for under international regulations. The proposed device would be a duplication of a function already being satisfactorily performed by present equipment. If a device can be developed which will satisfactorily and reliably respond to the SOS signal as such, there is provision in the international radio regulations for the acceptance of such a device in lieu of the autoalarm, not in addition to it [sec. 931].

6. Changes in the marine telegraph safety system should only be undertaken after careful consideration by recognized authorities in this field. We have no

information indicating that the equipments and practices prescribed by international agreements and regulations of the Federal Communications Commission to carry out this important aspect of maritime safety are deficient, unreliable, or unsatisfactory in any respect.

7. Even if our Government should depart from long-established international procedure and require general alerting for the several purposes proposed, a device of the kind proposed would not be necessary. The means is presently available through the autoalarm which is already required and in use on the vessel. All that is necessary would be to authorize transmission of the autoalarm signal preceding the transmission of urgency and safety signals. This could be prescribed by the FCC following proper international coordination, and no legislation is required. This, incidentally, would place all vessels on the same safety level, and the benefits and/or burden thereof would not be limited to vessels of the American flag.

We are also opposed to H. R. 5023 and H. R. 6004 in their initial form. An alarm for the purpose of responding to the ship station call letters would perform, primarily, a commercial function. To the extent it has anything to do with maritime safety the relationship is indirect and nebulous.

Our industry is aware of only one device of the nature described in this proposed legislation. It is a patented device which has been on the market since the end of World War II. It is complicated equipment which is difficult to maintain, and it has not met with general acceptance. To the extent that it performs the described function of providing a selective means of 24 hours per day contact with a specific vessel it could have some value for commercial purposes. However, this device is not by any means the only way of performing this communications function. Furthermore, since the purpose of this device is only to bring the radio operator on duty when he may be off watch, a function which is already being satisfactorily performed by the autoalarm in cases of maritime distress, we fail to recognize any safety application which would justify its required installation aboard our vessels; nor are we aware of the existence of any evidence to the contrary.

The proponents of these bills have submitted a lengthy statement and numerous exhibits in support thereof. The majority of the exhibits or supporting statements submitted offer no testimony other than that the equipment provides a useful communications function. There is nothing to indicate that the present maritime distress system is inadequate. Furthermore, there is a vast difference between recognizing that a particular equipment can perform a useful communications function, and requiring such equipment to be placed aboard vessels as a matter of law. There are many electronic and nonelectric navigational and communication equipments on the market which are designed to perform a useful function, including that of safety, and which are being employed to a much greater extent than the device with which we are here concerned, but that does not imply that they should be mandatory. It is significant that not one of the various supporting statements referred to went so far as to even hint that the device described should be made mandatory equipment.

Included in the record are testimonials obtained from one of the ocean steamship companies a number of years ago in connection with their use of the proposed automatic radio call selector. That company believes that the record is somewhat misleading in this respect and have asked that the attached letter be submitted in clarification.

MOORE-MCCORMACK LINES, INC.,
New York 13, N. Y., May 7, 1954.

Subject: Automatic radio call selector H. R. 6004.

AMERICAN MERCHANT MARINE INSTITUTE,
11 Broadway, New York 4, N. Y.

GENTLEMEN: During 1947 a radio instrument known as the Brelco-McGoffin call alarm was offered to the Moore-McCormack Lines. It was claimed by the manufacturer that this device would respond to the ship's call letters and actuate a bell to alert an off-watch operator upon receiving the vessel's code call letters. Also, that it would be of great commercial advantage inasmuch as cargo vessels carrying 1 radio operator maintain a manual watch 8 hours per day and the remaining 16 hours are covered by the compulsory autoalarm for safety purposes. It was advanced that messages, addressed to vessels proceeding between Atlantic coast ports, transmitting orders to change destination, or requesting information of urgent nature relating to cargo, repairs, etc., may in many cases be delivered

hours earlier by the use of a ship's call alarm. The advancement of delivery of of one of these messages could result in the saving of a sum greater than the initial cost of the ship's call alarm. In view of the possibility of such operational savings, 35 Brelco call alarm units were purchased for the Moore-McCormack cargo vessels.

The automatic radio call selector, generally known as the Brelco-McGoffin call alarm, is a device containing a radio receiver preset to two fixed frequencies, one of which is inoperative while the other is being used. This receiver passes all radio signals and static discharges received on the fixed frequency in use to a system of relays connected to a series of switches which can be set to the vessel's call letters or any other combination of dots and dashes not exceeding a total of 26 individual dots or dashes or any combination of both. When a series of dots or dashes corresponding to the preset switches are received, an alarm bell is actuated and continues to ring until a release button is pressed. This call alarm appeared to be very promising, but after our experience with 35 units during the past 5 years, we have changed our opinion in regard to its reliability. This change of opinion is due to shortcomings which were not apparent and were not reported to us during the first 2 years following the installations on our cargo vessels.

During 1949 it was found that about 50 percent of the call alarms on the Moore-McCormack vessels were inoperative due to mechanical failure. The main cause of mechanical failure was remedied by substituting parts made to our specifications. This action improved the mechanical reliability of the equipment, but it was found that interference from other radio transmissions or noise from static frequently disrupted the sequence of the dots and dashes set up on the selector, and prevented it from performing its function. The problem of static can be counteracted to some extent by use of a sensitivity control which can be set according to the noise level. However, by setting this control to a low level the effective range of the instrument is proportionately shortened and its operational value materially affected. We have no way of knowing what proportion of the time the device has been successful in responding to initial calls since the coastal stations have been instructed to continue to call our vessels far in excess of the normal procedure on occasions when we have important messages to get through. Such special handling in connection with important messages has been necessitated by frequent failure of vessels using this device to respond to routine calls. We might add that many of these cases involved relatively short distances with the vessels being en route from one port to another along the Atlantic coast.

In addition to the call alarm's failure to operate from causes traced to interferences and mechanical weakness, it has on occasion also suffered from another annoying defect, that is false alarms. For example, in a report by John J. Rowe, Jr., radio operator of the steamship *Mormacmail*, he reported 12 false alarms during a 2-week period. In a report by C. W. Faust, radio operator of the steamship *Mormackite*, he states "one call alarm was registered, no communications established with calling station, probably false alarm."

The writer has had many years of experience as a marine radio operator, dating back to 1919. During this period he has copied, or has been involved in, innumerable distress messages and situations. It is his opinion that the proposed automatic call alarm could not supplement or replace the autoalarm in summoning aid to a vessel in need of immediate assistance.

If this proposed device is installed on United States vessels it would in effect limit the number of vessels responding to a distress call originating from a United States vessel so equipped. Ships under foreign flags carrying the autoalarm, by international regulations, may not be alerted by a device transmitting a distress call which differs from the internationally prescribed autoalarm signal.

Several years ago one of our vessels, the steamship *Mormacrey*, stood by the British tanker *Adellen* for 3 days, after which the crew was removed from the disabled tanker. We understand that the sponsor of this proposed legislation has referred to the use of the call alarm in connection with this distress incident. The call alarm was not used in summoning aid for the *Adellen* and was used only to call the radio operator of the steamship *Mormacrey* at the times he went off watch during the 3 days' period. Both vessels were in clear sight of each other during the period, and the same results were accomplished by the *Mormacrey* by means of a flashing light. Also, flag hoists were used as means of communication.

In our view this incident serves only to confirm that the existing distress system satisfactorily served to bring the two vessels together, and that once together, vessels have available and will use, various means of maintaining contact with one another including searchlights, whistles, flag hoists, flares, etc.

We do not feel that any selective calling equipment should be mandatory inasmuch as existing autoalarm equipment fulfills the safety requirement involving distress at sea, and we feel that the telegraph call alarm is purely a device of some commercial value which cannot be relied on implicitly but which offers the chance for the saving of operational expense, when operative.

In conclusion, we wish to go on record as opposing compulsory installation of another piece of equipment for a function which already is covered by the existing autoalarm equipment.

MOORE-MCCORMACK LINES, INC.,
By L. B. VICTOR,
Manager, Radio Department.

Mr. HALE. The committee will stand adjourned until tomorrow morning at 10 o'clock.

(The following letter was submitted for the record:)

ASSOCIATION OF AMERICAN SHIP OWNERS,
Washington 6, D. C., May 11, 1954.

Re H. R. 5023 and H. R. 6004.

Hon. CHARLES A. WOLVERTON,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: On behalf of the Association of American Ship Owners, we desire to submit the following comments on H. R. 5023 and H. R. 6004 and respectfully ask that this letter be made a part of the record of the hearings before your committee.

This association is opposed to the enactment of this legislation.

H. R. 5023, sponsored by the manufacturer of a patented automatic radio call selector, would compel all United States cargo vessels of over 1,600 gross tons to install such device in addition to its present equipment and failing this, to carry two or more radio operators and maintain a continuous radio watch.

At the time this bill was introduced on May 5, 1953, the device was described as one capable of receiving and identifying the call letters of a ship in Morse code on each of two frequencies selectively and not simultaneously and if the call letters of the ship were received an alarm would sound. Since the end of World War II such a device had been manufactured in very small quantities and used experimentally by at least one major steamship company and the United States Coast Guard. We are advised that it has been found by them to be somewhat unreliable, expensive, and difficult to maintain and in need of further technical development.

In short, this bill sought to compel the ship operator to install equipment only obtainable from a single source, alleged to be of great commercial value

At hearings before your committee a year later, on May 4, 1954, H. R. 6004 was before you. Except for a minor amendment the language is the same. The equipment as then described would perform a number of safety functions. In addition to responding to the ship's station call letters, it was alleged the device could also be made to respond to the international distress signal SOS, the international emergency signal XXX, the international safety signal TTT, and any other predetermined code letters which might be used in an emergency.

Neither the manufacturer nor any party to these proceedings suggests that such a device now exists. Nevertheless, your committee is urged to make mandatory the purchase and installation of an unknown, undeveloped piece of equipment in the name of greater safety of life at sea. It would be little comfort to a shipowner that the bill provides in effect that if a device answering these specifications is not available and therefore not installed within 12 months of the passage of the bill, he could operate his vessel but would be required to maintain a continuous radio watch and carry at least two radio operators.

At present and for years past all such cargo vessels are and were required to carry one radio operator, who stands an 8-hour watch and to maintain an automatic alarm apparatus in operation at all times when the radio operator is not on watch. There is no claim anywhere in the record that this equipment and arrangement is not entirely adequate and satisfactory.

If the Government should deem it advisable to revise established international procedures and require general alerting for the several purposes proposed, its objective could be accomplished through the autoalarm system which is already installed on such vessels. The FCC could authorize the transmission of the auto-

alarm signal preceding the transmission of a variety of emergency or safety signals. This would suggest the need for international arrangements to bring uniformity into the new system, but certainly would require no legislation.

Finally, we wish to emphasize that in addition to standard radio telegraph equipment a very high percent of vessels in the United States merchant marine have radio telephone equipment with much greater flexibility and utility than anything claimed for the device proposed in this legislation.

We are informed that the device as originally described in May 1953 would cost the owner approximately $1,650. It is a fair assumption that the more complicated equipment envisioned in the May 4, 1954, hearings would be considerably more expensive. We strongly oppose the imposition of a substantial additional expense to the shipowner, with no benefit to him or the public.

Sincerely yours,

GEORGE W. MORGAN, *President.*

(Additional reports which were requested during the hearing are as follows:)

THE SECRETARY OF COMMERCE,
Washington 25, June 1, 1954.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

DEAR MR. CHAIRMAN: This letter is in reply to your request of May 3, 1954, for the views of this Department with reference to the statement and proposed amendments submitted by Mr. Strichartz, the technical director of the American Radio Association, to your committee with respect to H. R. 6004, a bill to amend the Communications Act of 1934.

The statement emphasizes the safety objective of the bill in requiring the installation of automatic radio call selectors on cargo ships. The amendment would provide that the automatic call selector be capable of receiving signals, including ship station call letters, international distress signal, international safety signal, the international urgency signal, and any other code established in a national emergency.

In my letter to you of December 22, 1953, I set forth the views of the Department to the effect that: "It is not believed that the installment of automatic radio call selectors would make a substantial contribution toward the safety of United States ships already equipped with autoalarms."

The autoalarm system which is required to be installed on all cargo ships and tankers, of over 1,600 tons and not carrying more than one radio operator, is tuned to the international distress frequency when the radio operator on the ship is not on watch. This alarm actuates a bell and light, both in the radio room and the pilot house, and a bell only in the radio operator's room. The automatic radio call selector suggested by Mr. Strichartz would duplicate exactly the bells and lights of the autoalarm and in the same locations, the only difference would be that the incoming signals would be in code which would call a particular ship, instead of calling all ships within range, as is done by the autoalarm.

In referring to the radio autoalarm apparatus provided for in the bill, Mr. Strichartz states that it receives signals through a regular radio receiving circuit, and that when there is a high level of atmospheric disturbance, known to the laymen as static, the sensitivity of the autoalarm is affected for the worse. The same statement could be made with regard to the radio call selector suggested by Mr. Strichartz.

Thus, the radio call selector, if installed on ships, would do little more than duplicate the functions of the autoalarm, so far as safety communications are concerned.

We feel, therefore, that we have no further comments to make in addition to those in the report submitted to you on December 22, 1953.

We have been advised by the Bureau of the Budget that it would interpose no objection to the submission of this letter to your committee.

If we can be of further assistance to you, please call on us.

Sincerely yours,

SINCLAIR WEEKS, *Secretary of Commerce.*

DEPARTMENT OF THE NAVY,
OFFICE OF THE JUDGE ADVOCATE GENERAL,
Washington 25, D. C., June 4, 1954.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

MY DEAR MR. CHAIRMAN: During the hearings on H. R. 6004, May 3, 1954, your committee requested the views of the Department of the Navy with regard to amending this measure in such a way as to require increased capabilities of the automatic radio call selector referred to therein.

It is understood that this proposed amendment, to be added to an appropriate section of the bill, would provide as follows:

"The automatic radio call selector installed on any ship in accordance with this part shall be capable of being set manually to simultaneously receive and identify and respond to the following Morse code signals:

(a) the ship station call letters;
(b) the international distress signal (S O S);
(c) the international safety signal (T T T)
(d) the international urgent signal (X X X);
(e) any other predetermined code which is desired for use in national emergencies.

It shall provide a means for receiving such signal on both distress frequencies (five hundred kilocycles and eight thousand three hundred and sixtyfour kilocycles), selectively but with respect to frequency not simultaneously, and shall sound an alarm if, but only if, any of the above five signals are received. Such alarm shall be sounded in the radio office, on the bridge and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent of any other radio equipment on the ship."

The Department of Defense believes that safety of life and property at sea would be enhanced by the installation aboard ship of a device such as that described in the proposed amendment. Therefore, if such a device were presently in existence, and had passed satisfactorily the tests required by the Federal Communications Commission in order to provide its capabilities, the Department of Defense would interpose no objection to a proposal requiring its installation aboard ship provided the installation was economically feasible. However, until such a device has been approved by the Federal Communications Commission, and its commercial manufacture has proved to be practicable, the Department of Defense cannot approve a provision requiring its installation. The Department of the Navy, therefore, on behalf of the Department of Defense, is opposed to the proposed amendment to H. R. 6004.

In addition, opposition, as set forth in the Department of Defense report of October 12, 1953, is reaffirmed in regard to the enactment of H. R. 6004 as introduced.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Department of the Navy has been advised by the Bureau of the Budget that there is no objection to the submission of this report to the Congress.

Sincerely yours,

IRA H. NUNN,
Rear Admiral, United States Navy,
Judge Advocate General of the Navy
(For the Secretary of the Navy).

SUPPLEMENTARY COMMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION ON H. R. 6004, A BILL TO REQUIRE THE INSTALLATION OF AUTOMATIC RADIO CALL SELECTORS ON CERTAIN CARGO SHIPS OF THE UNITED STATES

These supplementary comments are elicited by reason of a proposed revision of H. R. 6004. For purposes of these comments, the most important revision is that which, in substance, would substitute for the present requirement of H. R. 6004 that the automatic call selector "sound an alarm if, but only if, the call letters of such ship are received," a requirement that the call selector "be capable of being set manually to simultaneously receive and identify and respond to the following Morse code signals:

(1) the ship station call letters;
(2) the international distress signal (S O S);

(3) the international safety signal (T T T);
(4) the international urgency signal (X X X);
(5) any other predetermined code which is desired for use in national emergencies."

It appears that under the proposed revision, it is contemplated that the automatic call selector would fulfill a function in three additional classes of situations. Its capabilities with respect to the telegraph distress signal S O S are apparently directed toward participation in a distress situation. Its capabilities with respect to the telegraph safety and urgency signals are apparently intended to buttress its use in situations where safety is involved but which fall short of actual distress. Its capabilities with respect to the reception of a "predetermined code" are apparently intended to supplement other communication facilities in times of war.

With regard to the use of the call selector for reception of the ship station call letters, the Commission's views which were previously expressed remain unchanged. That is, the advantage to the distress communication system which might result from the installation of automatic radio call selectors are not such as to warrant making the installation mandatory.

With respect to the proposed use of the equipment for response to the distress call S O S, there would appear to be duplication, to a large extent, of the function of the autoalarm. In accordance with the international radio regulations, the alarm signal (for use in case of distress) which actuates the autoalarm is a series of twelve 4-second dashes with 1-second intervals between dashes. If time permits, there is an interval of 2 minutes after termination of the alarm signal transmission before the distress call and message is sent; also the regulations prescribe transmission of the distress signal sent three times at the end of the alarm signal when circumstances permit. Hence, the autoalarm serves the purpose of alerting shipboard radiotelegraph operators, who are not on duty or who are not listening on the telegraph distress frequency, to the subsequent transmission of a distress call and message. The call selector would serve the similar purpose of alerting ship operators by response to a distress signal transmitted on the telegraph distress frequency in lieu of the autoalarm signal.

The alarm signal may be used also by a coast station to announce the transmission of an urgent cyclone warning. The transmission of the warning must not begin until 2 minutes after the end of the alarm signal. This delay period is to permit operators on board ship time to go on watch, after their autoalarms respond, in order to receive the ensuing call or warning.

The autoalarm system has functioned effectively for many years. The Commission's records of distress cases do not indicate any general failure of the autoalarm system to meet its objective. Further, there have been improvements from time to time in the autoalarm equipments since their introduction into use.

With respect to the proposed use of the equipment to respond to the urgency signal, X X X, the following considerations seem to be involved. Urgency signals are used by a station to indicate that it has a very urgent message to transmit concerning the safety of a ship or aircraft or of some person on board or within sight. It is in practice used to precede messages addressed to individual stations as well as to any or all stations within range. When used to announce urgent messages intended for general reception, a variety of emergency situations may be involved which, although serious, do not warrant use of the distress call. One type of such situation is the transmission of a generally addressed message for medical assistance or advice. Usually only passenger ships carry doctors, and since these ships stand continuous radio watch by operators, use of the automatic call selector would not appear to serve a useful function in such situations. In other types of cases, it apparently would be desirable for all vessels in the vicinity to receive a generally addressed urgent message. However, procedures established internationally for the transmission of urgency messages apparently do not contemplate use of the urgency signal to actuate alarms on board single operator vessels. This is indicated by the facts that the autoalarm is not required to respond to the urgency signal and no delay period is provided after transmission of the urgency signal to permit operators of single operator ships to go on watch to receive the message that follows. Further, the urgency signal is not required to be transmitted on the distress frequency. While the lack of such procedures may not necessarily prevent the operator from receiving the urgent message by means of the call selector, it is believed that actuation of the call selector would tend to lead to a confusion of inquiries as to the nature of the emergency. Further, due to the fact that urgent messages are individually addressed as well as generally addressed, use of the urgency signal to actuate an alarm would cause unnecessary

alerting. On the basis of experience with the autoalarm, ships could be alerted over a wide area, such as the western North Atlantic Ocean, the Gulf of Mexico, and the eastern North Pacific Ocean.

With respect to the proposed use of the automatic call selector to respond to the safety signal T T T, there apparently would be no duplication of the purpose of the autoalarm. In accordance with international radio regulations, the safety signal, normally transmitted on the distress frequency, indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings. The safety messages which follow the safety signal are usually generally addressed and intended for reception normally on the distress frequency of all ships within range. A considerable portion of the information contained in safety messages is repeated at scheduled times by coast stations and therefore, may be received by the operator of a single-operator ship during his normal watch periods. However, it is probable that there would be situations in which safety would be enhanced if messages of this nature could be received during the normal offwatch period of the ship's radio operator if they related to conditions concerning the individual ship or need for it to render assistance. Aside from the capabilities of the call selector itself, there appears to be one serious disadvantage of an alarm-alerting system for reception of the safety signal. This arises from the fact that the safety signal is frequently transmitted. It is likely that under certain conditions during normal offwatch periods of the operator, the alarm actuations caused by transmissions of the safety signal would be so numerous that it would be beyond the normal physical endurance of one operator to continue to respond to them over an extended period. It is expected that such circumstances would obtain during stormy seasons of the year when the vessel is within reception range of a number of coast stations.

When considering the possible future international adoption of any alarm system (such as the proposed call selector) which would respond to the safety signal and the urgency signal, it is pointed out that the basic function of such a system would be the same as that of the autoalarm already installed, i. e., to alert the operator so he can immediately go on watch. Thus, it would not seem reasonable to expect that international agreement could be obtained to require foreign as well as United States vessels to carry an automatic call selector alarm in addition to an autoalarm for the purpose of responding to these signals. This conclusion is reached because apparently the same purpose could be served by use of the autoalarm alone, and perhaps more efficiently by the latest types of autoalarms, if the permissible uses of the autoalarm signal were to be expanded under international agreement.

With regard to the use of call selectors for reception of a predetermined code during time of war, the Commission does not submit comment thereon, being of the opinion that other governmental agencies are better qualified to comment on this particular aspect. It is observed, however, that during time of war, more than one operator has usually been carried aboard cargo ships and, in such cases, the call selector again would serve no useful purpose if, as seems customary, the operator would be listening on the telegraph distress frequency.

Aside from the possible need for a device for safety purposes capable of responding to certain signals as discussed above, certain technical considerations bearing upon the possibility of development of such a device must be taken into consideration. Under the proposed revision, H. R. 6004 would mandatorily require the installation of a distinct piece of radio apparatus which, when in operation, would be capable of sounding an alarm only upon the reception of any 1 of 5 Morse code signals. As far as is known to the Commission, there is no device commercially available which is capable of receiving such a multiplicity of signals and giving satisfactory performance. Development of devices capable of responding solely to the autoalarm signal has indicated that considerable care must be taken in their design and use to achieve a reasonable rate of true response, as well as a high ratio of true to false response. Design and operational problems would appear to be introduced because of the similarity of the signals to which the apparatus must respond and the signals to which the device would be exposed, and the need for latitude in the device to accommodate variations in the speed and accuracy of signaling. In this respect, it should be noted that the exact speed of transmission of the autoalarm signal is internationally established and that automatic devices have been installed in many ships to allow for accurate timing in transmission of the signal. There has been no similar standardization with respect to the timing of the dots, dashes, and spaces comprising the international urgency, distress, and safety signals. In the matter of false response, it may be taken as a rough approximation that, other factors being equal, the

number of false responses which may be expected of automatic alarm apparatus will vary directly with the number of signals which the device is designed to receive. It would be expected then that a device designed to respond to five different signals would give considerably more false response than one designed for a response to a single signal. To be considered a satisfactory device for use for safety purposes, it would appear essential that any automatic call selector required to be provided for use on United States ships should provide for an absolute minimum of false response. Prior to the adoption of any legislation which would mandatorily require the provision of a call selector capable of responding to a multiplicity of signals, it is considered imperative that it be established that a device capable of operating satisfactorily under practical conditions is actually available.

The comments set forth above have been directed primarily toward the use of the automatic call selector on the distress frequency 500 kilocycles. Under the proposed legislation, the apparatus would also be required to function selectively but not simultaneously on the frequency 8364 kilocycles. International radio regulations require the use of 500 kilocycles by lifeboats, liferafts and other survival craft compulsorily provided with radio apparatus for distress purposes and if fitted with high frequency transmitting equipment, ability to transmit on 8364 kilocycles. With respect to the use of the frequency 8364 kilocycles, the international regulations have been carefully worded in order not to detract from or disrupt the existing world wide use of 500 kilocycles as the international radiotelegraph distress frequency. Accordingly, the frequency is not a distress frequency in the sense of the world as normally and officially appled to the frequency 500 kilocycles. 8364 kilocycles is basically a supplemental safety frequency for use by survival craft if they desire to establish communications with stations of the maritime mobile service relating to search and rescue operations.

Because of the fundamental prescribed differences in the use of 8364 kilocycles and 500 kilocycles, it would appear that the ability of an automatic call selector to respond to the ship call letters and the safety and urgency signals would be of very limited utility on 8364 kilocycles. In the use of the automatic call selector on 8364 kilocycles, any real value would lie in its ability to respond to the telegraph distress signal on that frequency.

In view of the foregoing considerations, the Commission is of the opinion that the net benefits to be derived from the additional proposed uses of the automatic call selector are not clear enough to justify making the device mandatory at this time.

(The report on H. R. 5023 referred to follows:)

TREASURY DEPARTMENT,
Washington, June 4, 1954.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Treasury Department on H. R. 6004, to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes, and in particular on the amendment offered by Mr. Morris H. Strichartz in his testimony on the bill.

A review of the bill and the testimony of Mr. Strichartz has resulted in a determination that the Treasury Department adheres to its position as expressed to you in my letter of July 20, 1953, commenting on H. R. 5023, which, with one exception, contains the same provisions as H. R. 6004.

Comments of the Treasury Department on H. R. 5023 included the statement that automatic call selectors, of the type which would be mandatory equipment under the provisions of both H. R. 5023 and H. R. 6004, have been tested in a number of Coast Guard units, and based on those tests the conclusion has been reached that this type of device cannot at present be depended upon to accomplish the purpose for which it is proposed. The amendment suggested by Mr. Strichartz in his testimony would, in the opinion of this Department, serve further to complicate the operation of these devices and would tend to make them even more unreliable.

Because of the fact that present technical development of this type of equipment has not reached the stage where it can be depended upon to provide reliable

service and because the present autoalarm devices are considered adequate for safety purposes, the Treasury Department recommends against the enactment of the proposed bill.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

H. CHAPMAN ROSE,
Acting Secretary of the Treasury.

JULY 20, 1953.

Hon. CHARLES A. WOLVERTON,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Treasury Department on H. R. 5023, to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

The proposed legislation would amend sections 352, 353, and 354 of the Communications Act of 1934, as amended, to require mandatory installation of automatic radio call selectors on certain cargo ships of the United States.

The automatic selectors which would become mandatory equipment under this act have been tested in a number of Coast Guard units. From field reports of the Coast Guard, it has been determined that the present technical development of this type of equipment has not reached the stage where it can be depended upon to provide reliable service. For that reason, and for the reason that the autoalarm devices as now required are considered adequate for safety purposes, the Treasury Department recommends against the enactment of the proposed bill.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to the committee.

Very truly yours,

H. CHAPMAN ROSE,
Acting Secretary of the Treasury.

(Whereupon, at 12:10 p. m., the committee adjourned.)

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